SONY.

3,14828

Color Video Printer

Instructions For Use Page 2

Before operating this unit, please read this manual thoroughly and retain it for future reference.

Mode d'emploi Page 110

Avant la mise en service de cet appareil, prière de lire attentivement ce mode d'emploi que l'on conservera pour toute référence ultérieure.

Gebrauchsanweisung Seite 218

Bevor Sie dieses Gerät verwenden, lesen Sie diese Anleitung bitte sorgfältig durch, und bewahren Sie sie für später zum Nachschlagen auf.

UP-7300MDP

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

To avoid electrical shock, do not open the cabinet. Refer servicing to qualified personnel only.

Important safeguards notices for use in the medical environments

1. All the equipments connected to this unit shall be certified according to Standard IEC601-1, IEC950, IEC 65 or other IEC/ISO Standards applicable to the equipments.
2. When this unit is used together with other equipment in the patient area*, the equipment shall be either powered by an isolation transformer or connected via an additional protective earth terminal to system ground unless it is certified according to Standard IEC601-1.

    * Patient Area
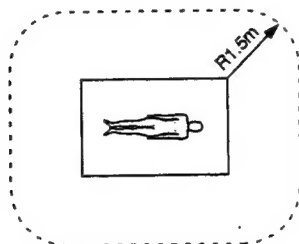
3. The leakage current could increase when connected to other equipment.

For the customers in the United Kingdom

WARNING
THIS APPARATUS MUST BE EARTHED

IMPORTANT
The wires in this mains lead are coloured in accordance with the following code:

    Green-and-yellow: Earth
    Blue: Neutral
    Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug proceed as follows:
The wire which is coloured green-and-yellow must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green-and-yellow.
The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black.
The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red.

Symbols on the products

 This symbol indicates type B equipment classified in accordance with IEC Publication 601-1 Safety of medical electrical equipment.

 This symbol indicates the equipotential terminal which brings the various parts of a system to the same potential.

For the customers in the U.S.A.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a digital device pursuant to Subpart B of Part 15 of FCC Rules.

8266

Table of Contents

Table of Contents (continued)

Trademarks
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About This Manual

This manual is divided into four chapters. This section explains the organization of this manual.

Introduction
Describes the features and system configuration of the color video printer.

Operation
Describes actual printing operation once all connections and adjustments have been made, as explained in the next chapter. You will be able to make various types of printouts after reading through this chapter.

Installation and adjustment
Describes how to make connections and make adjustments using the menus displayed on the video monitor and printer window display. Once all connections and adjustments have been made, there should be no need to perform these operations again during normal printing operations. These operations must, however, be performed after reinstalling, or if the picture quality degrades, or if adjustment becomes necessary because the peripheral equipment is changed. Also, covered is the use of the printer's remote control unit.

Others
Notes the precautions to be observed when using the printer, lists errors and their handling, and explains troubleshooting. Also provided is information on the locations and functions of parts and controls, and the on-screen messages and menus used to operate the printer. Should you encounter any unfamiliar terms or items while reading this manual, consult the index at the end of the manual.

Conventions used

Cross references
Throughout this manual you will find the references to other sections of the manual that contain related information.

Important note
Be sure to read the sections of the manual marked Note . They explain points that you should be aware of to operate the printer correctly and prevent malfunctions.

Index
Use the index, in addition to the table of contents, to find information you need when using the printer.

System Overview

The Sony UP-7300MDP color video printer is designed for capturing images from video equipment, computers and medical equipment devices and for making printouts of those images. You can make various types of printouts. You can also add a caption onto the printout. Printer setup is done interactively by picking from displayed menus.

Printouts that can be made with the printer

Printout of a full-size image (page 16)

1994.7.7 At the park

Printout of six reduced images (pages 22)

1994.7.7 At the park
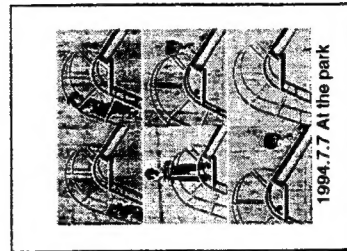
Printout of two reduced images* (page 22)

1994.7.7 At the park

Printout of eight reduced images* (pages 22)

1994.7.7 At the park
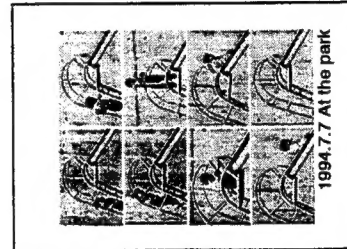
Printout of four reduced images (pages 22)

1994.7.7
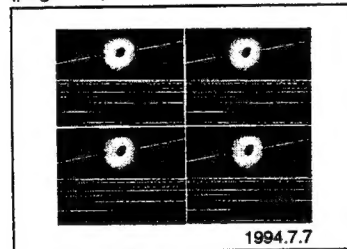
Printout of 16 reduced images* (pages 22)

1994.7.7 At the park
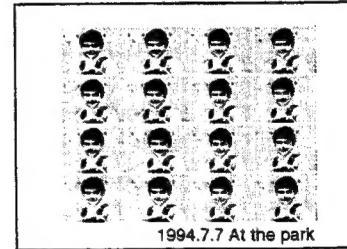
* Only with 625/50 input signals

Note

The above examples of printout types for 625/50 input signal and a hi-scan input signal show the ones with a caption. (See page 29)

The following shows an example printer system configuration.

Monitor for 625/50 signal
Displays the images received from the video source and the image to be printed. Also displays the printer menus and messages.

Video source for 625/50 signal
(video recorder, video camera, video disk player, still picture transmitter, etc.)
Outputs the video images to be printed.

Computer outputting Hi-scan signal and monitor
Outputs data, such as video graphics to be printed. Computer images, printer menus and messages are displayed on the monitor.

Color Video printer UP-7300MDP

Medical equipment
Outputs hi-scan signals to be printed.

Video monitor

Provides uninterrupted viewing of the video source.

Remote control unit (supplied)
Allows you to operate the printer remotely.

Before Printing

This section describes the following operations that must be made prior to start printing after installing the printer and making connections.

- Loading an ink ribbon cassette (see page 8)
- Loading the print paper (see page 11)
- Installing paper tray and paper cover (see page 36)
- Selecting the input signal (see page 12)

Once the above operations are done, there should be no need to subsequently perform in routine printing operations. Perform the above operations, if necessary.
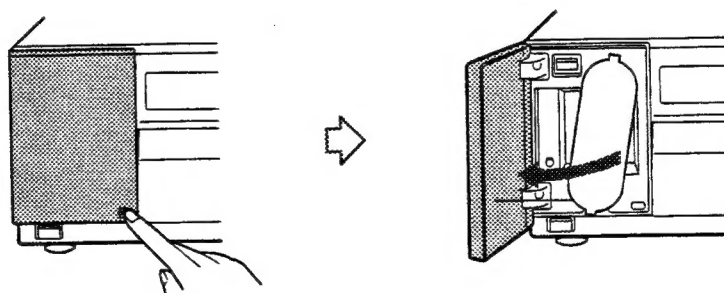
Loading an Ink Ribbon Cassette

To make printouts, an ink ribbon cassette and paper should be loaded. Both of those should be used in correct pairs. (See "Ink Ribbon and Print Paper" page 89) Load the ink ribbon to the supplied ink ribbon holder, and load the ink ribbon cassette (referring to the ink ribbon holder loaded with the ink ribbon) to the printer's ribbon compartment. Three types of ink ribbon holders are supplied, each labelled with different colors: pink for color printing, gray for black and white printing, and blue for OHP printing. Use the holder suitable for the type of ink ribbon and print material.

Notes

- Before attempting to load an ink ribbon, make sure that the combination of the ribbon and paper is compatible. If the printer detects an incompatible combination, an error message appears in the printer window display and monitor and you cannot make printouts.
- Use only ink ribbon and print paper for this printer. If you use a different type, the printer may not print properly or malfunction.
- When replacing ink ribbon, do not turn off the power. If you turn off the power, the image data stored in the memory will be lost.

1 Push PUSH on the ribbon door.
   The ribbon door opens.

2 Remove the ink ribbon cassette by pulling down the EJECT button.
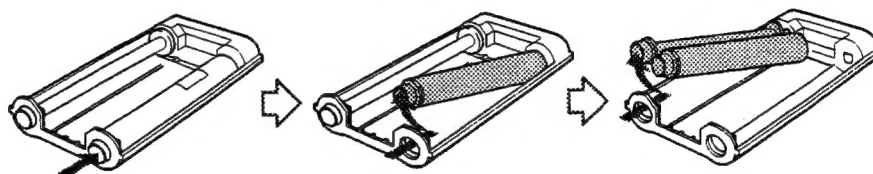The ink ribbon cassette pops out.
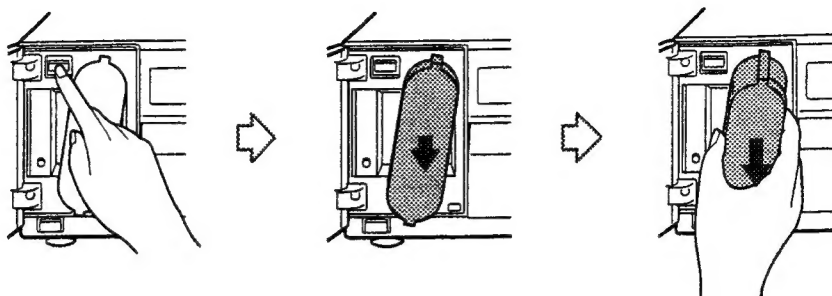
Note

Never put your hand into the ink ribbon compartment. The thermal head becomes very hot. You may burn yourself if you touch it.

3 Detach the used ink ribbon from the ink ribbon holder.

① Remove the spool with the ink ribbon.　② Remove the other spool.

4 Take off the seal of the ink ribbon and load the ink ribbon to the ink ribbon holder.

① Load the spool holding the ink ribbon into the right-hand part of the holder.

② Fit the other spool into the left-hand part of the holder.

"START" position marker

Ink ribbon

Ink ribbon holder
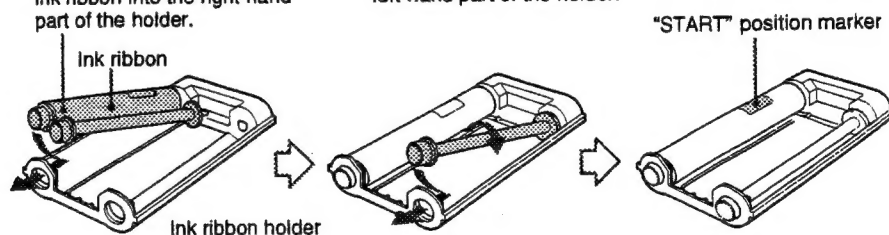
5 Remove any slack from the ink ribbon.
If the ribbon is left slack, it may be crumpled and damaged when inserted.

"START" position marker
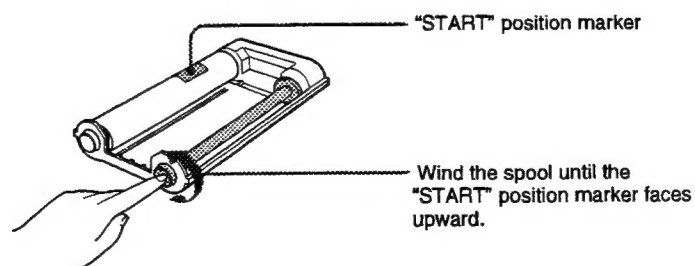
Wind the spool until the "START" position marker faces upward.

6 Insert the ink ribbon cassette firmly until it stops.

"Sony" mark faces forward.

7 Close the ribbon door.
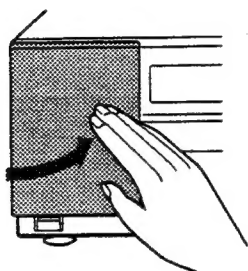
If your ink ribbon should tear

Repair the tear with transparent tape. There should be no problem with using the remaining portion of the ribbon.

Transparent tape

Turn the spool to remove any slack.
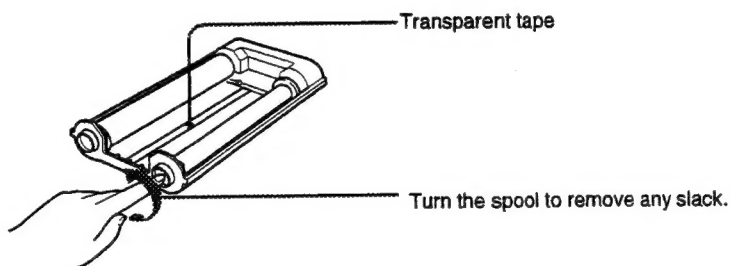
Notes
When using ink ribbons
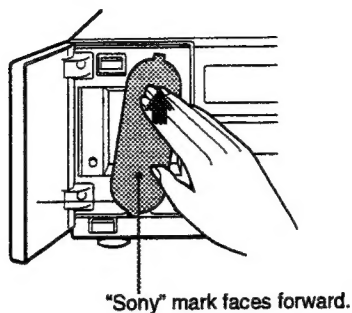- Once an ink ribbon has been completely used, replace it. Ink ribbons are not re-usable.
- Do not touch the ink ribbon or place it in a dusty location. Finger prints or dust on ink ribbon will result in imperfect printing.

When storing ink ribbons
- Avoid placing the ink ribbon in a location subject to:
  — high temperatures
  — high humidity
  — excessive dust
  — direct sunlight
- Store partially used ink ribbon in its original package.

Loading the Print Paper

Follow these steps to load print paper in the printer. Use only the ink ribbon cassette and paper packed in the same carton, that is correctly in pairs. Be careful not to touch the printing surface.

Note

When loading the paper while the printer is operating, do not turn off the power. If you turn off the power, the image stored in memory will be lost.
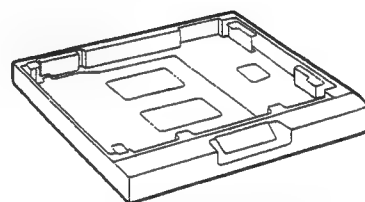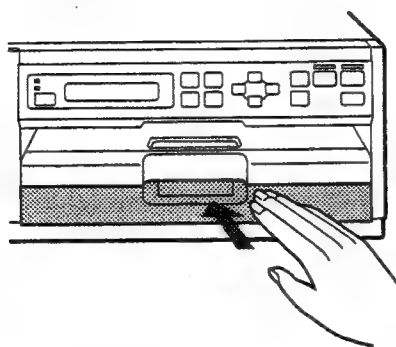
1 Push PUSH on the paper tray.
The paper tray is ejected.

Remove the printing surface
protection sheet, if any.

2 Place the print paper in paper tray.

Reverse side with Sony
logos facing upward.

Set the paper securely
under the tab.

Printing surface
protection sheet

Front

Printing surface
(shiny side with no
logos) facing down.
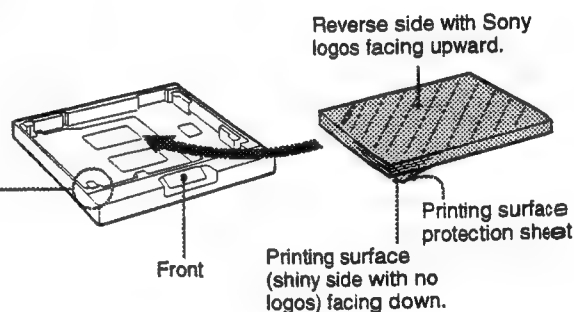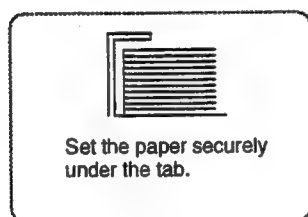
Notes

- The paper tray holds up to 100 sheets of paper and transparencies. When you add paper to a partly-full tray, be careful that the total number of sheets does not exceed 100. If you exceed this limit, paper jams may occur.
- When you add paper to a partly-full tray, remove the printing surface protection sheet. Do not place different types of paper in the tray. If you do, paper jams may occur.
- Load the paper so that it lays flat in the paper tray. If the paper is curled, it will overflow the paper tray and the printing position may shift. If this happens, load fewer sheets in the paper tray.

3 Slide the paper tray back into the printer until it clicks into place.
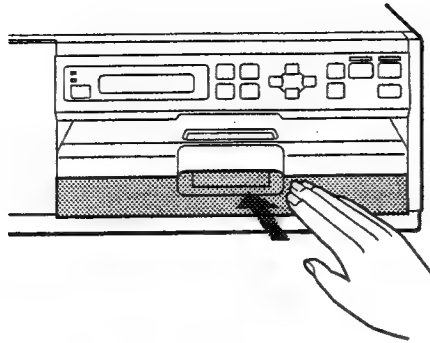
Notes

When storing print paper

- Avoid storing the print paper in a location subject to:
  — high temperatures
  — high humidity
  — excessive dust
  — direct sunlight
- Use the original package for storing unused paper.

Selecting the Input Signal

Before printing, select the input signal (the input connector to which the signal to be printed is being input—VIDEO, S-VIDEO, RGB, or HI-scan signal) from the menu on the video monitor or printer window display. Once you have selected the input signal, this setting remains as is until you select another source.
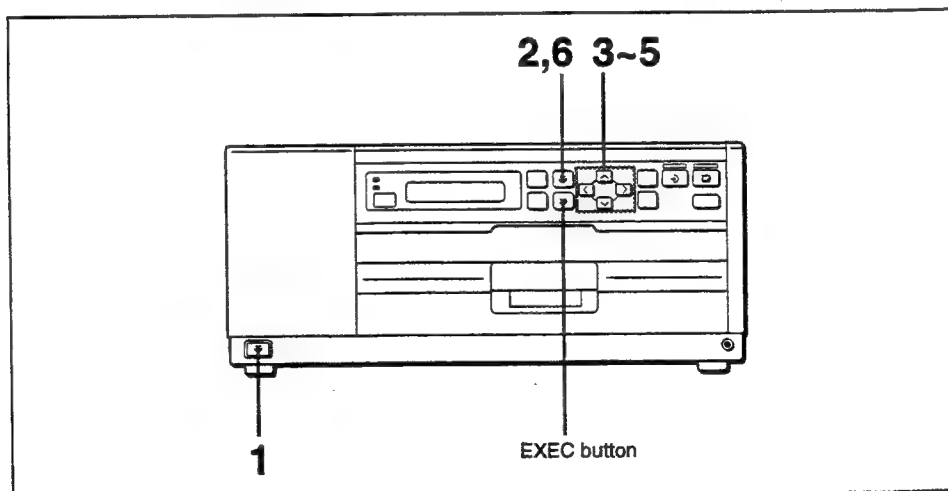
1 Turn on the video monitor and the printer.
The following message appears when the printer is ready to operate.

Video monitor screen

```
C




QTY1 A 1/1          S
```

Printer window display

```
C
QTY1   A   1/1              S
```
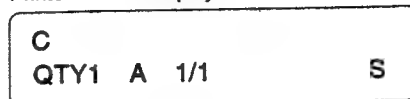
Note
When you turn on the printer for the first time, "C" does not appear. "C" is displayed only when the printer is set to print a caption such as a date and/or comments.

2 Press the MENU button.
The following screen appears.

```
625              COLOR 100
▶INPUT SEL        [>]
 COLOR ADJ        [>]
 PIX QUALITY      [>]
 CLEAR            [>]
 CAPTION          [>]
 SET UP           [>]
```

Main menu screen

```
>INPUT SEL
                 [>]
```
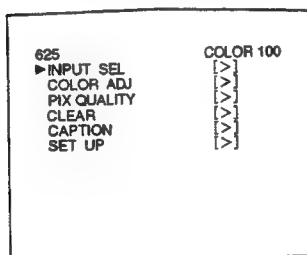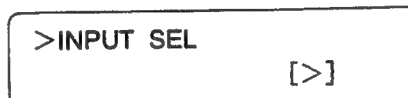
Part of the main menu

3 Select INPUT SEL by pressing the ∧ or ∨ button.

```
625              COLOR 100
▦INPUT SEL        [>]
 COLOR ADJ        [>]
 PIX QUALITY      [>]
 CLEAR            [>]
 CAPTION          [>]
 SET UP           [>]
```
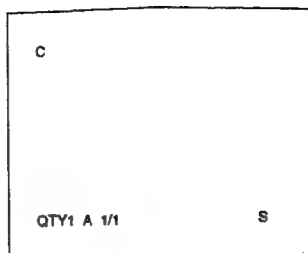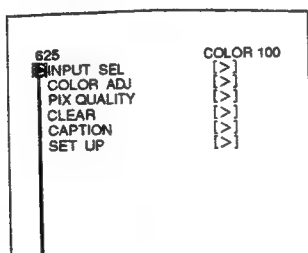
Move the cursor to INPUT SEL by pressing the ∧ or ∨ button.

```
>INPUT SEL
                 [>]
```
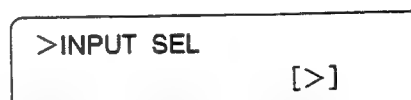
Display this message by pressing the ∧ or ∨ button.

4 Press the > button.

```
INPUT SEL
VIDEO S RGB HI
```

```
INPUT SEL
─☀VIDEO · S · RGB · HI
```
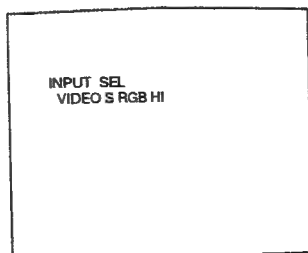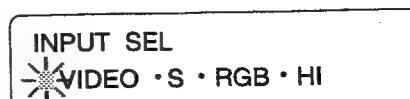
Part of INPUT SEL sub menu

INPUT SEL sub menu

5 Select the desired input signal by pressing the < or > button.

INPUT SEL
VIDEO S RGB HI

INPUT SEL
→VIDEO • S • RGB • HI
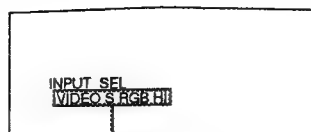
Switch the desired input to green by pressing the < or > button.
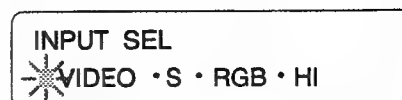
Position the blinking cursor in front of the desired input by pressing the < or > button.

The name of the selected input signal on the video monitor and printer window display	Source signal of the image to be printed
VIDEO	Composite video signals from the video equipment connected to the VIDEO INPUT connector
S	Separated Y/C video signals from the video equipment connected to the S-VIDEO INPUT connector
RGB	RGB signal from the video equipment connected to the RGB/SYNC INPUT connectors
HI	High-scan signals from the computer or medial equipment connected to the HI-SCAN INPUT connector

When you change the setting from a hi-scan signal (HI) to a 625/50 signal (VIDEO, S, or RGB) or vice versa

The message PUSH [EXEC] appears on the display. Press the EXEC button. The printer switches its internal operating modes from that for hi-scan signals to that for 625/50 signals, and then returns to the regular screen.
The input signal is factory-set to VIDEO. When you select HI for the first time, the same message appears.

6 Press the MENU button.
The regular screen appears.

Notes

• While the printer changes its internal operating modes, all the buttons are disabled. When the printer display returns to the regular screen, you can operate the printer.
• When you change the setting from a hi-scan signal to a 625/50 signal or vice versa, the image stored with the previous signal setting will not be printed correctly with the new signal setting. Store an image again and print it.

Selecting the hi-scan signal

The printer has factory-preset operating modes for approximately 50 different hi-scan signals and additionally saved modes for four user-set signals.
When you select HI and press the EXEC button, the printer automatically detects the input-signal timing and selects the optimum signal while scanning the last-used signal, the four user-set signals, and finally the factory-set signals. (See "Automatic Selection of the Hi-Scan Signal" on page 42.)
The selected signal is displayed on the HI-SCAN SEL sub menu as CURRENT SETTING. If the desired signal is not selected, or some items of the signal specifications must be adjusted, select another preset signal or manually adjust and store up to four signals. (See "Setting a Signal not Included in the Preset Signals" on page 47.)

This section explains how to make a full-size printout. The operations described here is the basic procedure for making a printout.
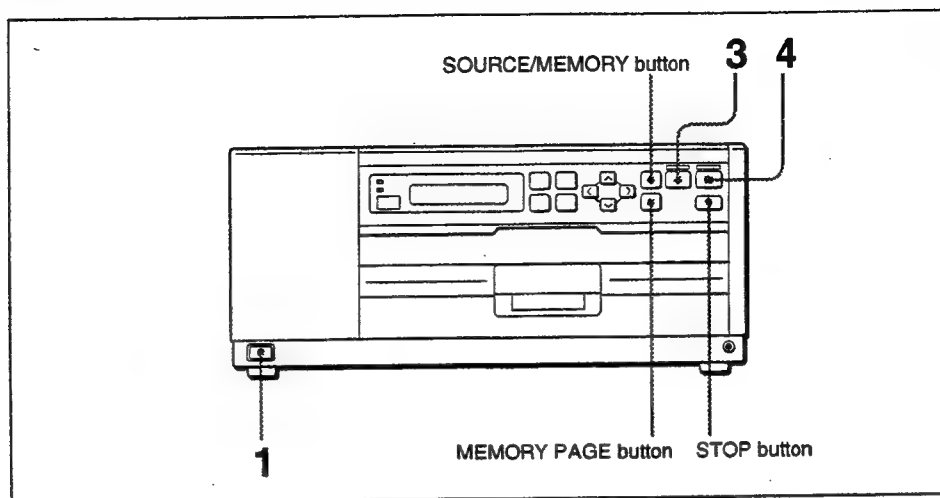
Before making a full-size printout
- All connections should have already been made. (see page 37)
- Ensure that the appropriate ink ribbon cassette/print paper set is being used and that they are correctly loaded. (see pages 8 and 11)
- Select the input signal to be used to make a printout. (see page 12)
- Set the memory mode to store one full-size image into memory. (see page 23)
- Select the appropriate memory page. (see page 24)

1 Turn on the video monitor and the printer.
The following message appears when the printer is ready to operate.

Video monitor screen

```
c




QTY1 A 1/1          S
```

Printer window display

```
C
QTY1  A  1/1              S
```
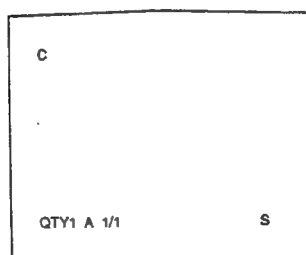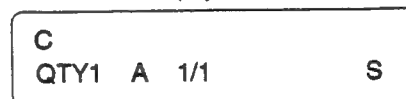
2 Play back the video source.
This operation is done using the controls of the video equipment acting as the source.

3 Press the MEMORY IN button at the instant when the image you want to print appears on the screen.
That image is stored into memory. The image from the video source is being displayed on the screen.

Shows that the image being displayed is of the signals input from the video source and output to the monitor after being processed in the printer's internal circuits.
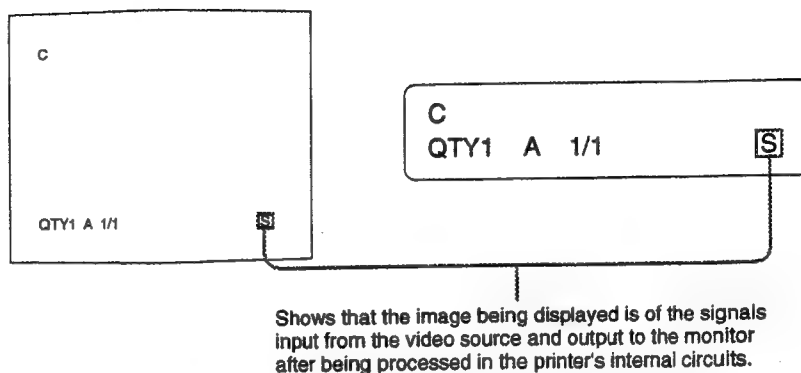
To check the image stored in memory
Press the SOURCE/MEMORY button. The image stored in memory is displayed and "M" (Memory image) is displayed at the down right corner of the screen. To display the image of the video source, press the SOURCE/MEMORY button again.

To change the stored image
Press the MEMORY IN button at the instant when the image you want to print appears. The previous image is replaced with the new one.

Note

If you turn off the power, the image stored in memory will be lost. Store an image in memory again after you turn on the power. If you do not store an image, the printer does not print even if you press the PRINT button.

4 Press the PRINT button.
It takes about 125 seconds to make a color printout (of a Macintosh II input signal), or 60 seconds to make a black and white printout. Printing time depends on the type of input signal.
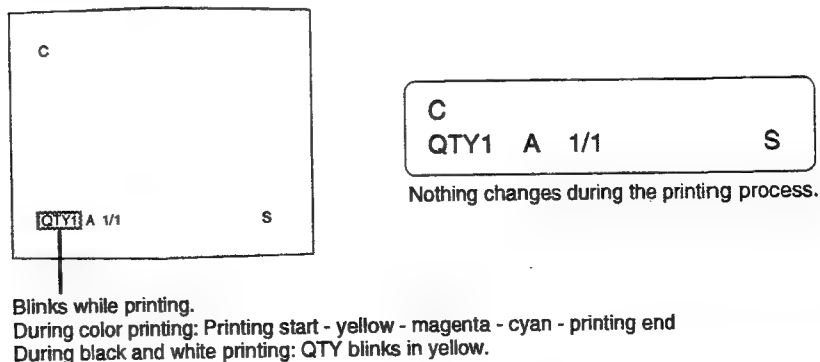
Nothing changes during the printing process.

Blinks while printing.
During color printing: Printing start - yellow - magenta - cyan - printing end
During black and white printing: QTY blinks in yellow.

Continued to next page→

- Depending on the type of input signal, the bottom of the screen display may be cut off during printing. When printing is completed, the screen display resets.
  To view the whole screen display during printing, set the MONITOR output option to THRU so that the input signal is output to the monitor without being processed in the printer's internal circuits. (see page 75.)
- Do not pull the paper out till the printer finished printing.
- Do not open the ribbon door during printing.

To stop printing before completion

Press the STOP button. Printing is abandoned and the message stating "PLEASE WAIT " appears on the display. Then the paper is ejected to the paper cover and the printer can be operated.

If the printer does not print

The printer will fail to print in the following cases:
- An error message is displayed in the video monitor screen and printer window display. Take remedies according to "Error Messages" on page 94.
- The image data stored in the memory is lost when you turn off the power.

If the stored image is blurred

A quickly moving image may be blurred when it is printed. If this happens, set the motion correction function to on. This should eliminate blur from the printout.
(see "Eliminating the Blur From a Printout" on page 59).

If the picture quality of printouts is not satisfactory

You can adjust the picture quality of printouts. (see "Adjusting the Printout Quality" on page 52)

If a black line appears on the printout

Sometimes, a black line appears on the printout, although it does not appear on the video monitor. You can eliminate the black line from the printout. (see "Shifting the Printout Area" page 68.)

When you want to see an image that is hidden below a screen message

You can erase the screen message on the video monitor screen. (see "Erasing the Screen Display " on page 79.)

Notes

When storing your printouts:

- Avoid storing the printout in a location subject to high temperatures, high humidity, excessive dust and direct sunlight.
- Do not stick tape on a printout. Also avoid leaving a plastic eraser on a printout or placing a printout in contact with materials which contain plasticizer (under a desk mat, for example).
- Be sure not to leave the printed surface of an OHP transparency pressed against anything. The ink may come off onto the other surface.
- Do not allow alcohol or other volatile organic solvents to come into contact with the printouts.

Storing Other Images While Printing

The printer has four memory pages. While the images of a memory page are being printed, you can store other images in another memory page. The memory page changes whenever you press the MEMORY PAGE button. (See "Selecting the Memory Page" on page 24)

Video monitor screen
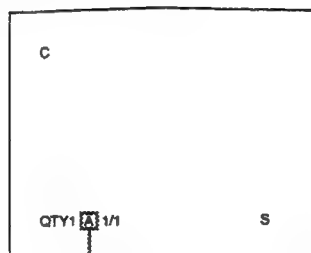
Shows that the memory page A is being selected.
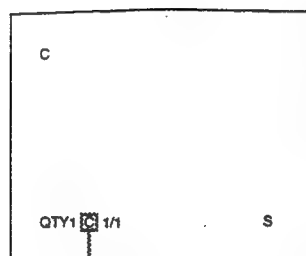
Shows the memory page newly selected.
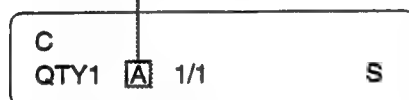
Printer window display
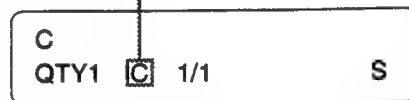
Making Multiple Copies of an Identical Image

By setting the print quantity, you can print up to 20 copies of a stored image.
Do the following steps before you start printing or while printing. You can change
the designated number of copies any time during printing.

1,3   2
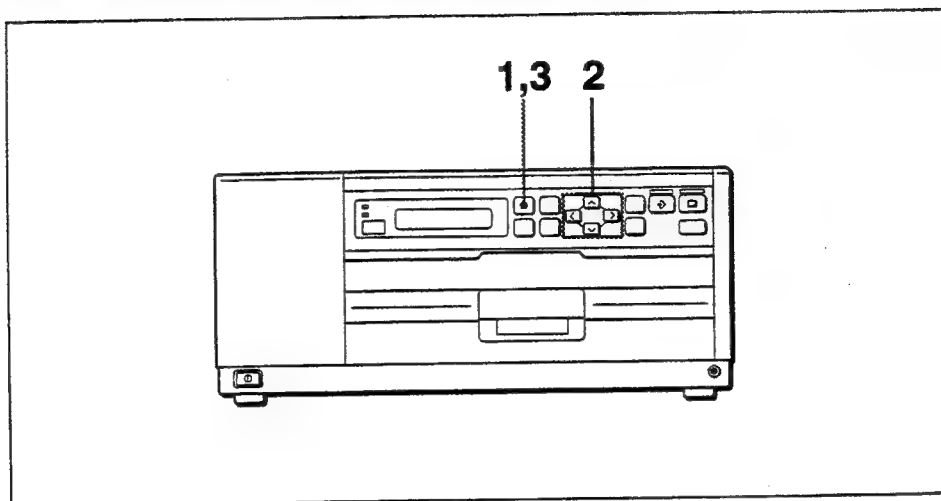
1 Press the PRINT QTY button.
The print quantity setting menu screen appears.

Video monitor screen.

PRINT QTY 1
(COLOR 100)
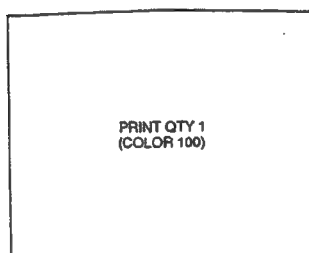
Printer window display

PRINT QTY 1
(COLOR 100)

2 Set the quantity by pressing the ∧ , ∨ , < , and > buttons.
Press > to increase the units digit.
Press < to decrease the units digit.
Press ∧ to increase the tens digit.
Press ∨ to decrease the tens digit.

PRINT QTY 12
(COLOR 100)
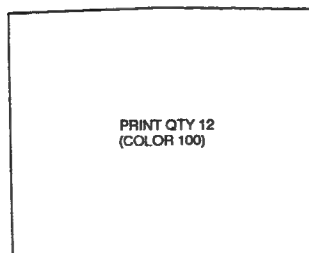
PRINT QTY 12
(COLOR 100)

3 Press the PRINT QTY button again.
The regular screen appears.

When the print paper runs out during printing
Load the print paper in the paper tray and press the PRINT button. The printer prints the remaining copies.

To check how much ink ribbon is left
Press the MENU button or PRINT QTY button.

When the MENU button is pressed

```
625               COLOR[97]————————  Shows the remaining number
▶INPUT SEL          [>]                of ink ribbon left
  COLOR ADJ         [>]
  PIX QUALITY       [>]
  CLEAR             [>]
  CAPTION           [>]
  SET UP            [>]
```
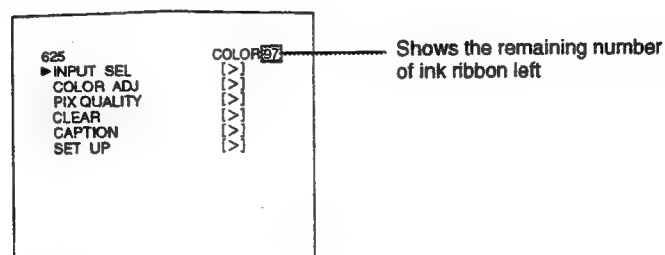
Notes
- The monitor displays the number of printouts that can be printed using the ribbon last used for printing, even if a new ribbon has since been inserted. Only by using the new ribbon to print will the display be revised.
- The printer does not recognize any change when the ribbon is replaced with another of the same type (for example, when a color ribbon is replaced with another color ribbon) and continues subtracting from the original count as prints are made. The correct number of remaining printouts is not displayed. Printing, however, is not affected.

Designating the number of copies by the remote control unit (supplied)

You can also designate the number of copies directly on the regular screen by using PRINT QTY +/− buttons of the remote control unit supplied.
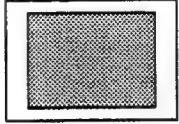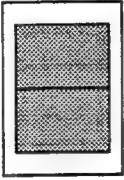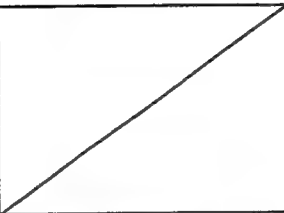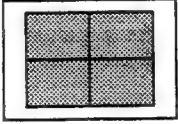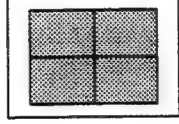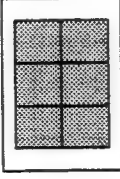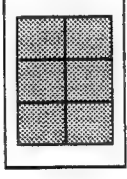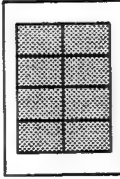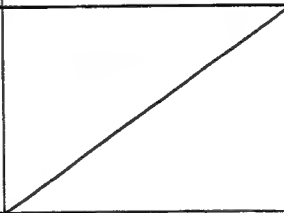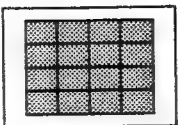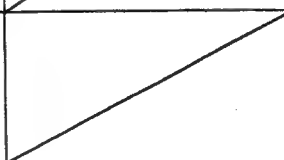
When setting	Button
To decrease the quantity	PRINT QTY - button
To increase the quantity	PRINT QTY + button

Making a Printout of Multiple Reduced Images

You can store multiple images to a memory page and print them, each reduced as necessary to fit 2, 4, 6, 8 or 16 onto a single printout. This section explains various printout types and usable memory pages and the procedures to make a printout of multiple reduced images — selecting the printout type, selecting the memory page, and then making a printout.

Printout Type and Usable Memory Pages

The following printout variations are available depending on the type of input signal. The number of memory pages that you can use depends on the selected printout type and input signal.

Type of printout	Printout direction		Usable memory pages
	625/50 input signals	Hi-scan input signals	
Full-size image			A, B, C, D
Two reduced images			A, B
Four reduced images			A
six reduced images			A
Eight reduced images			A, B
16 reduced images			A

Notes

- When hi-scan signals are input, the usable memory pages vary depending on the signal specifications.
- When you select a different printout type, store a new image for printing.

Before storing and printing multiple images, select the number of images stored in one memory page.
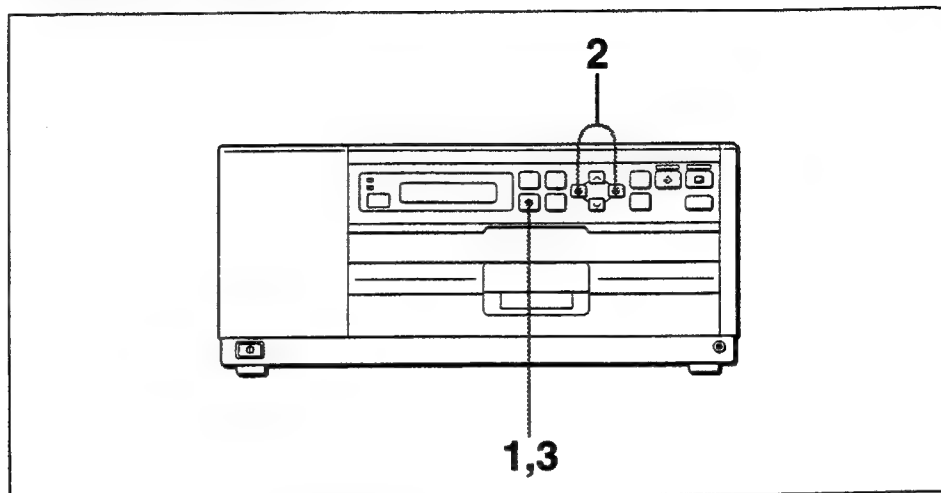
1 Press the MULTI PICTURE button.
The following screen appears.

When a 625/50 signal is input

Video monitor screen
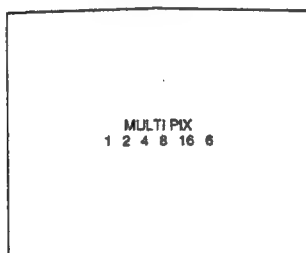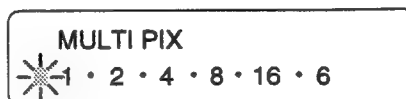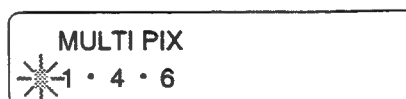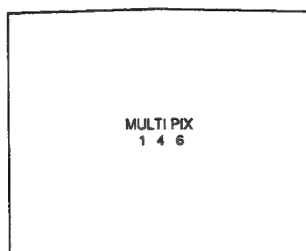
MULTI PIX
1 2 4 8 16 6

Printer window display

MULTI PIX
1 · 2 · 4 · 8 · 16 · 6

When a Hi-Scan signal is input

MULTI PIX
1 4 6

MULTI PIX
1 · 4 · 6

Continued to next page→

2 Select the printout type with the < and > buttons.

```
         *
         *

    MULTI PIX
  1 [2] 4  8  16  6
```
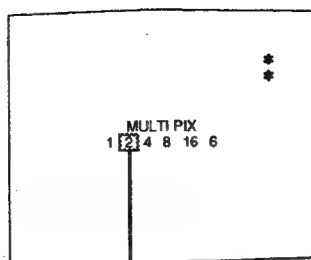
Switch the desired printout type to
green by pressing the < or > button.

```
MULTI PIX
• 1 2 • 4 • 8 • 16 • 6
```
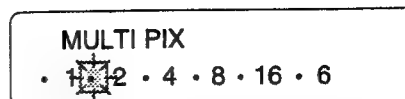
Position the blinking cursor in front of the
desired printout type by pressing the < or >
button.

Note

When a signal from a high-definition television is input or ASPECT 4 is selected from the
SAVED SETTINGS of the HI-SCAN SEL sub menu, you cannot make a printout of six reduced
images.

3 Press the MULTI PICTURE button.
The regular screen appears.

Selecting the Memory Page

To select a memory page, press the MEMORY PAGE button.
For usable memory pages, refer to page 22.

MEMORY PAGE button

```
c
         *
         *




QTY1 [B] 1/2        S
```

```
C
QTY1  [B]  1/2                    S
```
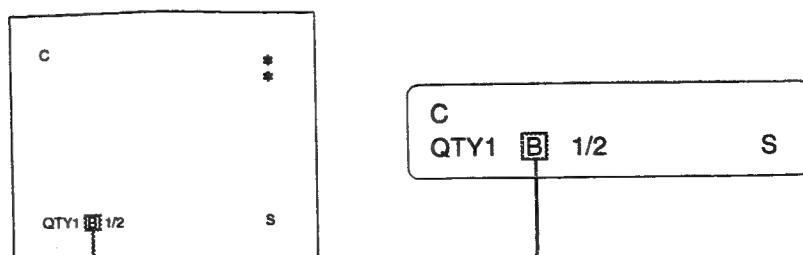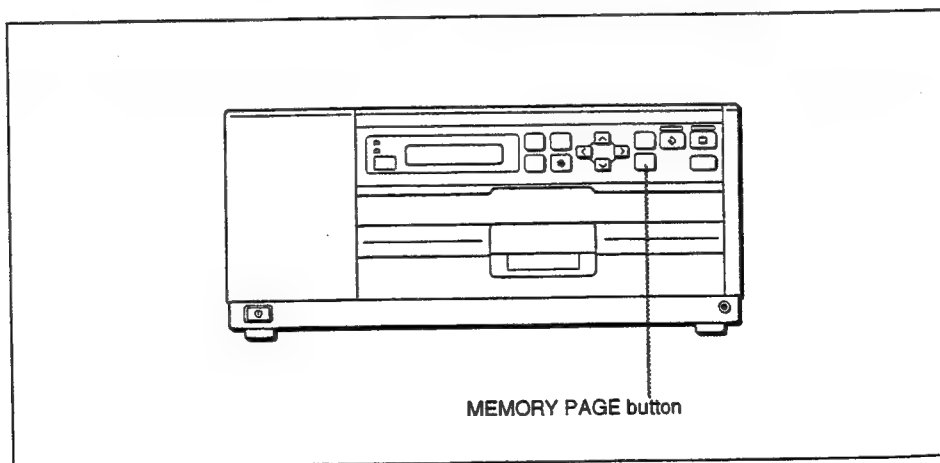
Press the MEMORY PAGE button as many times as
necessary until the desired memory page appears.

This subsection explains how to make printouts of multiple reduced images using the following example, making a printout of four reduced images.

Before making printouts of four reduced images
- Set the printout type to store four reduced images into memory. (see page 23)
- Select the appropriate memory page. (see page 24)

2 3,4

5
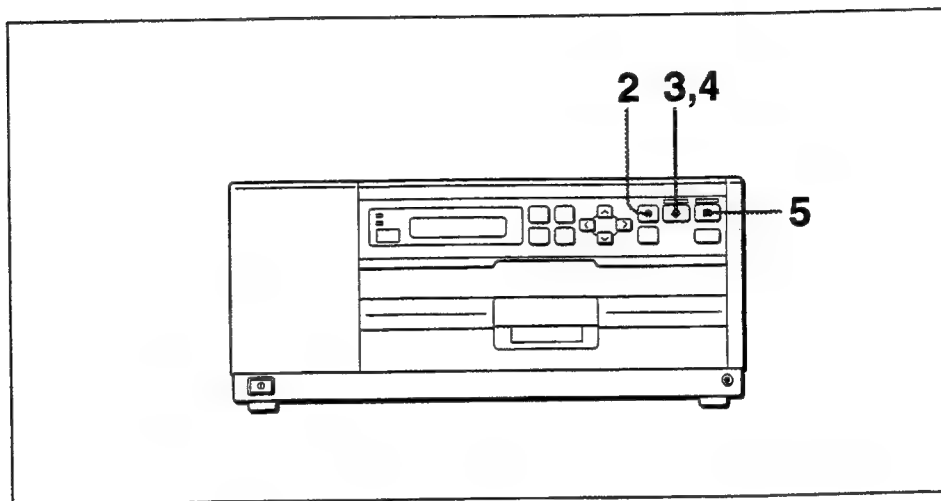
1 Start the video source.
This operation is done using the controls of the video equipment acting as the source.

2 When M is being displayed on the monitor, press the SOURCE/MEMORY button.
The image on the monitor shifts from the stored image to the video source image. S is displayed on the monitor.
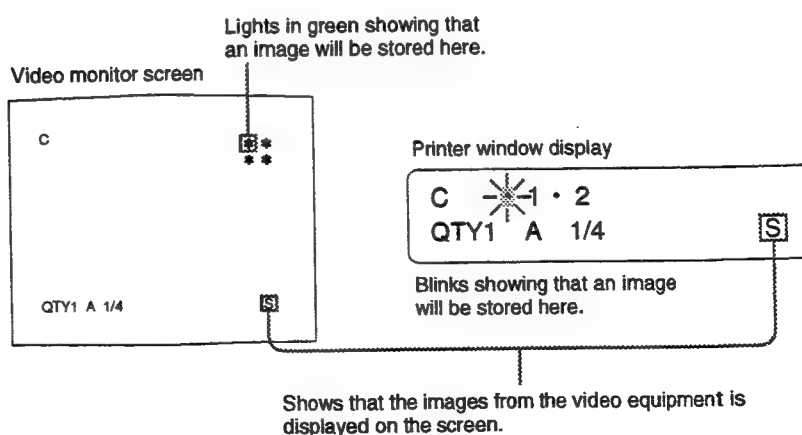
Lights in green showing that
an image will be stored here.

Video monitor screen

c

QTY1 A 1/4

Printer window display

C ☀–1 · 2
QTY1 A 1/4   S

Blinks showing that an image
will be stored here.

Shows that the images from the video equipment is
displayed on the screen.

3 Press the MEMORY IN button at the instant when the image you want to print appears on the screen.

The image is stored to the green star (*) on the video monitor screen or the position number with the blinking cursor on the printer window display.

The green star on the monitor and the blinking cursor on the display moves to the next position.

The image is stored in this position.

The position an image is stored next lights in green.

```
C    · 1 * 2
QTY1  A  2/4         S
```

The blinking cursor moves and the number changes.
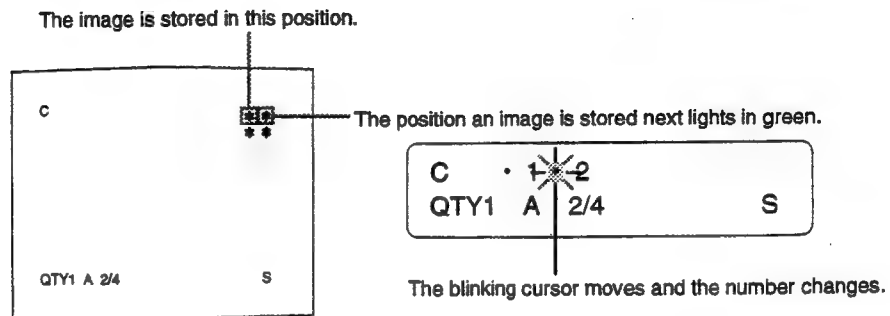
4 Repeat step 3 until you have stored four images.

To display a stored image

Press the SOURCE/MEMORY button. The image stored in the position where the star lights in green on the monitor (or the cursor is positioned on the printer display) is displayed on the monitor. (M appears.) To display the image stored in another position, move the green star or the blinking cursor by pressing the ∧,∨, < or > button.

To replace a stored image

Example: When you want to change the image stored to the third position.

① Select the position where you want to replace images in green or with blinking cursor by pressing the ∧,∨, < or > button.

```
C   - * 3 · 4
QTY1  A  3/4         S
```

Move the blinking cursor to "3" by using the ∧, ∨, < or > button

Switch the third start to green with the ∧, ∨, < or > button.
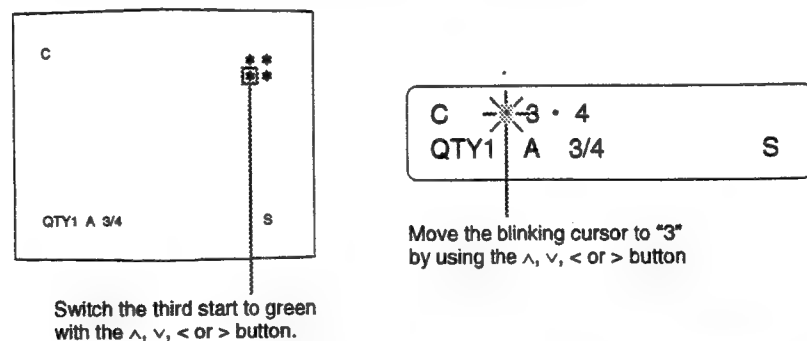
② Press the MEMORY IN button at the instant when the image you want to print appears.

The previously stored image is replaced with the newly stored image.

To skip a previously stored image

When an image has already been stored, the previously stored image can be replaced by pressing the MEMORY IN button.

Skip the corresponding image by pressing the ∧, ∨, < or > button.

5 Press the PRINT button.

The four reduced images are printed on one sheet of paper.

To stop printing midway

Press the STOP button. The printer stops printing and ejects paper to the paper cover.

> **Note**
>
> Depending on the type of input signal, the bottom of the screen display may be cut off during printing. When printing is completed, the screen display resets.
> To view the whole screen display during printing, set the MONITOR output option to THRU so that the input signal is output to the monitor without being processed in the printer's internal circuits. (see page 75.)

Entering a Caption

A caption, such as data or comments, can be added to a printout, using small characters below the image.
When a 625/50 signal is input, you can input up to 50 characters. When a hi-scan signal is input, you can enter a caption only to full-size and four-reduced-images printouts. Depending on the type of hi-scan signals, the maximum number of characters you can input is less than 50.

About the CAPTION Sub Menu

A caption is entered from the CAPTION sub menu. A brief explanation of each item on the CAPTION sub menu, is given below before entering a caption.

Character display area
Lights in green when ON is displayed and in white when OFF is displayed.
The green cursor ☐ indicates the position where a character can be entered.

Video monitor screen

CAPTION   OFF

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+- =%
'·,.:;()[]<>
!?&/#$¥£@~¡

The line where the cursor is placed in the character display area is displayed.

Printer window display

_
ABCDEFGHIJKLMN

The line where the cursor is placed in the character entry area is displayed.

Symbols and words with = are used to enter a caption.

Character entry area
The character or symbol where the cursor is placed is displayed in green and can be entered.

ON: displayed when printing with a caption
OFF: displayed when printing without a caption

Symbols and words with = used to enter a caption

Monitor display	Printer window display	Function
SP	SP	One space
BS	BS	One backspace
OFF	OFF	Selecting printing without a caption
ON	ON	Selecting printing with a caption
SHIFT[a]	SF/sf	Selecting either capital letters or lower-case letters

a) By highlighting SHIFT to green and pressing the EXEC button, capital letters are changed to lower-case letters, or lower-case letters are changed to capital letters.

Enter a caption as follows. The setting remains valid until you enter a new setting - even if you turn the power off.
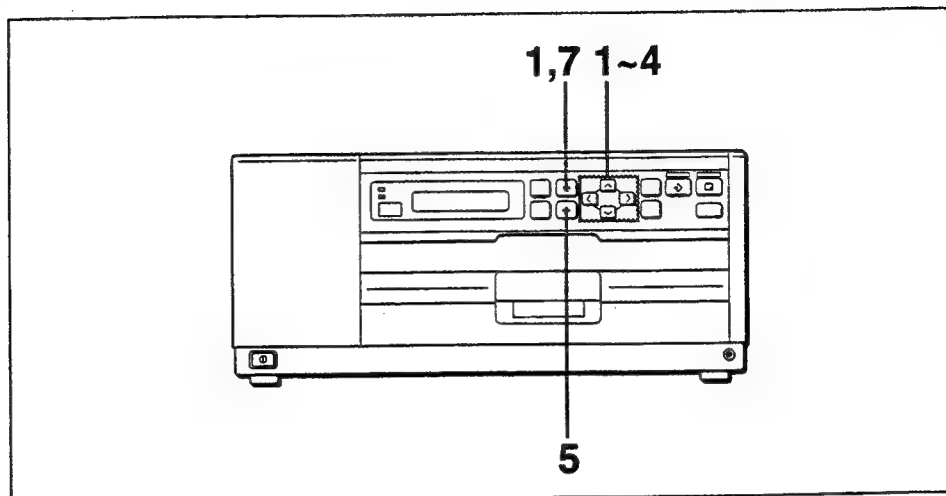
1 Press the MENU button and select CAPTION by pressing the ∧ or ∨ button. The following screen appears.

Video monitor screen

```
625                    COLOR 100
   INPUT SEL          [>]
   COLOR ADJ          [>]
   PIX QUALITY        [>]
   CLEAR              [>]
 ►CAPTION             [>]
   SET UP             [>]
```
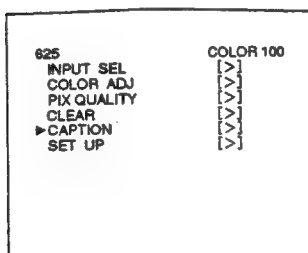
Move the cursor to CAPTION by pressing the ∧ or ∨ button.

Printer window display

```
>CAPTION
                  [>]
```
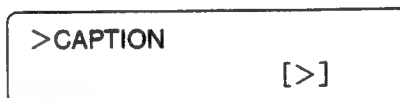
Press the ∧ or ∨ button until CAPTION appears.

2 Press the > button. The following screen appears.

```
CAPTION                 OFF
-----------------------------
-----------------------------
-----------
ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+-=%
' . , : ; ( ) [ ] { } < >
! ? & / ~ # $ ¥ £ @ ~ ¦
```

CAPTION sub menu

```
-
ABCDEFGHIJKLMN
```
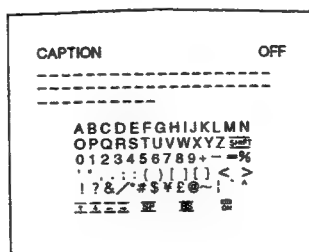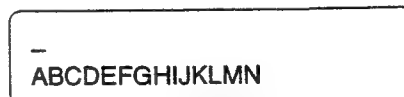
Part of CAPTION sub menu

3 Select the position where you want to enter the character in the character display area.

① Select the arrow of the corresponding direction in which you want to move the green cursor □ in the character display area by pressing the ∧, ∨, < or > button.

CAPTION   OFF

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+-=%
! ? & / # $ ¥ £ @ ~ !
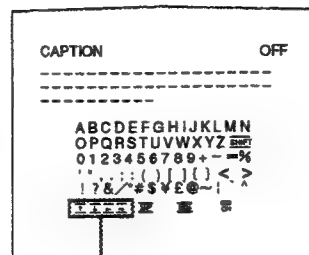
Highlight the desired arrow direction in green by pressing the ∧, ∨, < or > button.

← ↓ ← → SP BS OFF
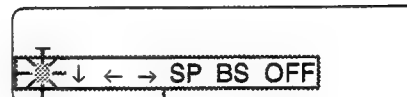
Press the ∧ or ∨ button until this line appears, and then move the blinking cursor to the desired arrow direction by pressing the < or > button.

② Press the EXEC button.
Pressing the EXEC button moves the cursor □ in the character display area to the designated direction.

③ Repeat steps ① and ② until the cursor □ moves to the position where you want to enter the character.

4 Select the character you want to enter by pressing the ∧, ∨, < or > button.
Example: To select S

CAPTION   OFF

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+-=%
! ? & / # $ ¥ £ @ ~ !
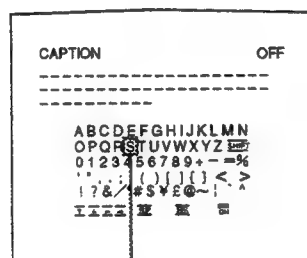
Highlight S in green.

QR TUVWXYZsf
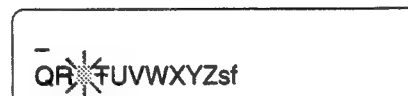
Press the ∧ or ∨ button until this line appears, then press < or > buttons until S blinks.

5 Press the EXEC button.
The selected character appears where the green cursor □ is placed on the character display area, then the cursor □ moves to the next position.

CAPTION   OFF
S

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+-=%
! ? & / # $ ¥ £ @ ~ !

S_
QRSTUVWXYZsf
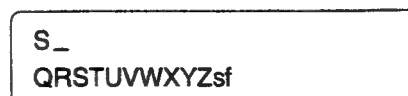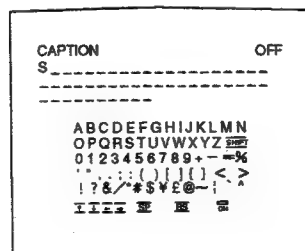
When you enter a wrong character

Select BS by pressing the ∧, ∨, < or > buttons, then press the EXEC button.
The character to the left of highlighted character will be deleted.

6 Repeat steps 3, 4 and 5 to enter the remaining characters of the caption.

To enter a space

① Move the green cursor ☐ to the position where you want to enter a space.
② Select SPACE by pressing the ∧, ∨, < or > button.
③ Press the EXEC button.
  The one space is entered and the green cursor ☐ moves to the next position.

To replace a previously entered character without changing the number of characters

You can replace a previously entered character with a new one.
① Move the green cursor ☐ to the character which you want to replace by the operations in step 4.

Make the character blinking in green.
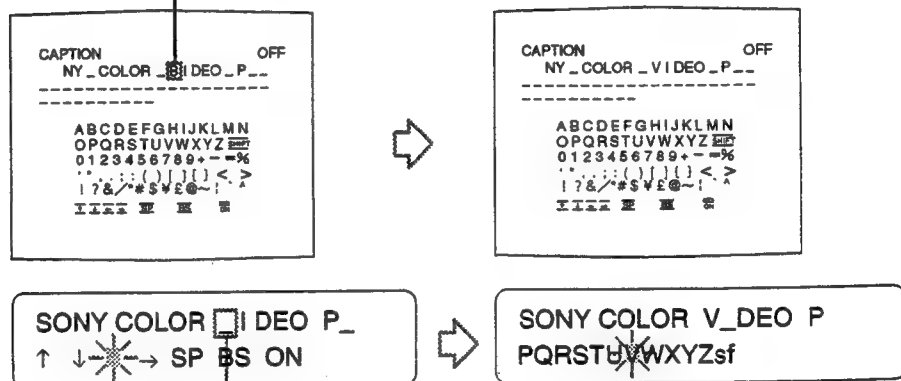
Move the cursor over the character you want to replace.
(The character is hidden under the cursor.)

② Enter the correct character over the wrong character by the operations in steps 4 and 5.
  The previously entered character is replaced with the new one.

7 Press the MENU button.
The regular screen appears.

Notes
- When you adjusted the screen size either with H SIZE on the SET UP sub menu, H SIZE of SAVED SETTINGS of the HI-SCAN SEL sub menu, or RESIZE RATIO on the PIX QUALITY sub menu, the caption may be partially truncated on the printout.
- When you set MOTION CORRECT to ON on the PIX QUALITY sub menu, the caption may not be printed clearly.

Making Printouts with a Caption

Display the CAPTION sub menu screen in advance (see steps 1 and 2 of "Entering a Caption" on page 29).

1 Select ON by pressing the ∧, ∨, < or > button.

CAPTION   OFF

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+−=%
!?&/*#$¥£@~
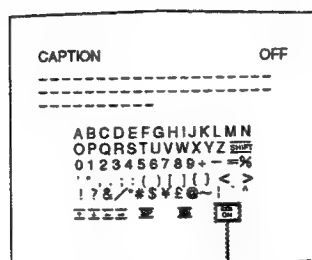
Highlight "ON" in green.

↑ ↓ ← → SP BS N
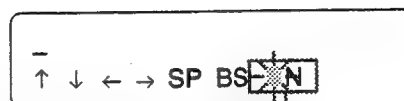
Move the blinking cursor to "ON".

2 Press the EXEC button.

CAPTION   ON

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+−=%
!?&/*#$¥£@~
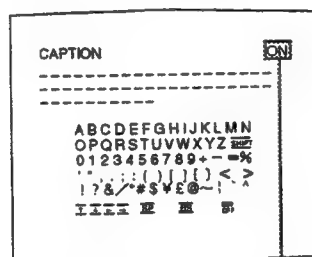
"ON" is displayed instead of "OFF".

↑ ↓ ← → SP BS N
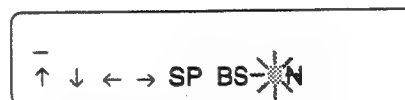
Making printouts without a caption
Select OFF in step 1.

Deleting the Images Stored in Memory

You can delete the images stored in a single memory page, either individually or all at once.

Note
You cannot restore images once they have been deleted.
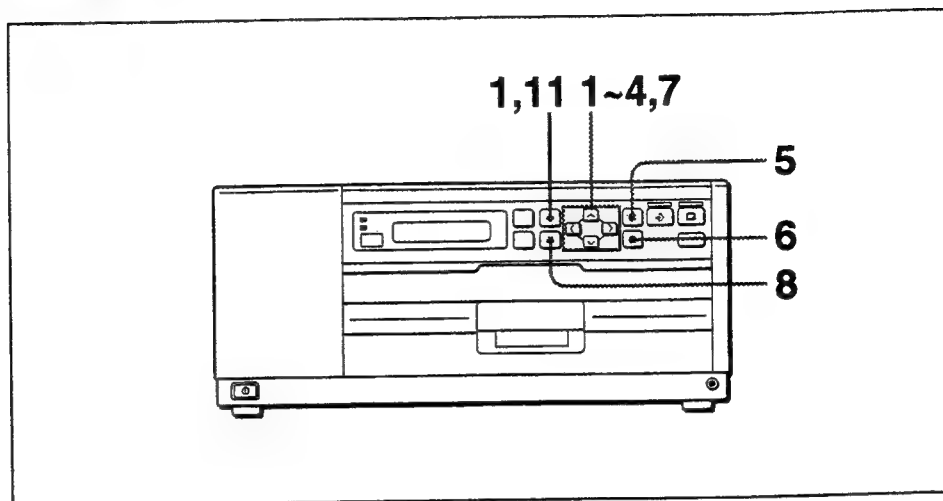
1 Press the MENU button and select CLEAR by pressing the ∧ or ∨ button..

Video monitor screen

```
625              COLOR 100
  INPUT SEL        [>]
  COLOR ADJ        [>]
  PIX QUALITY      [>]
▶ CLEAR            [>]
  CAPTION          [>]
  SET UP           [>]
```
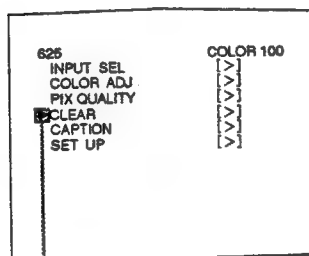
Move the cursor to CLEAR by pressing
the ∧ or ∨ button.

Printer window display

```
>CLEAR
              [>]
```

Press the ∧ or ∨ button until CLEAR appears.

2 Press the > button.
The following screen appears.

```
CLEAR

▶ ALL CLEAR     [>]
  PART CLEAR    [>]
```

CLEAR sub menu

```
>ALL CLEAR
              [>]
```
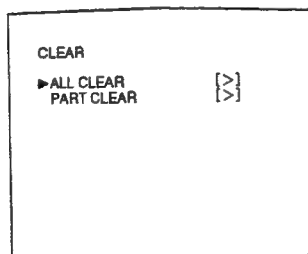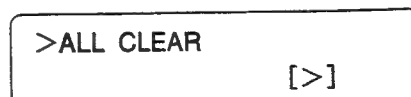
Part of CLEAR sub menu

Continued to next page→

Operation | 33

3 To delete all the images in a single memory at once, select ALL CLEAR. To delete part of the images, select PART CLEAR by pressing the ∧ or ∨ button. Example: when you delete part of the images

```
CLEAR

  ALL CLEAR     [>]
▷PART CLEAR     [>]
```
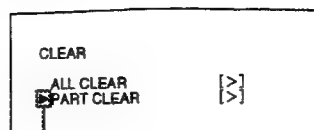
Move the cursor to PART CLEAR by pressing the ∧ or ∨ button.

```
>PART  CLEAR
              [>]
```
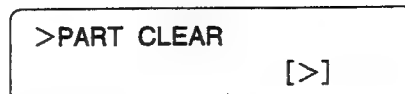
Press the ∧ or ∨ button until PART CLEAR appears.

4 Press the > button.
The following screen appears.

```
PART CLEAR    PUSH [EXEC]
               * *
               * *




QTY1 A 1/4             S
```
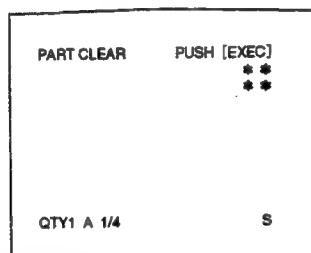
When the four-images printout is selected.
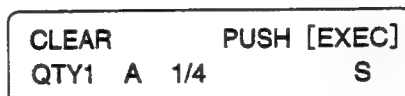
```
CLEAR          PUSH [EXEC]
QTY1  A  1/4            S
```

5 Press the SOURCE/MEMORY button.
The image stored in memory is displayed on the screen.

```
PART CLEAR    PUSH [EXEC]
               * *
               * *




QTY1 A 1/4            M
```

```
CLEAR          PUSH [EXEC]
QTY1  A  1/4           M
```
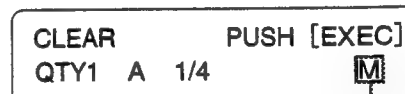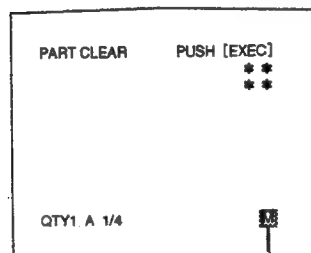
Shows that the image stored in memory is displayed.

6 Select the memory page, in which the images to be deleted are stored, by pressing the MEMORY PAGE button. (When you select ALL CLEAR, skip step 7.)

7 Select the image to be erased by pressing the ∧, ∨, < or > button.

Lights in green showing the
position where the image currently
displayed on the screen is stored.

```
PART CLEAR    PUSH [EXEC]
                    ∗ ▦
                    ∗ ∗



QTY1  A  2/4              M
```
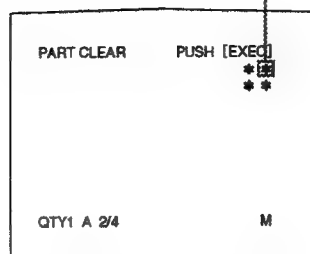
Indicates that the image displayed on the
screen is the second image of the four images.

```
CLEAR         PUSH [EXEC]
QTY1  A  2/4              M
```
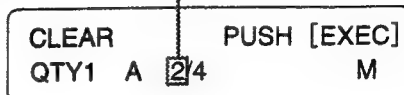
8 Press the EXEC button.
When PART CLEAR is selected, the image selected in step 7 is erased. When ALL CLEAR is selected, all the images in the single memory page are erased at once (skip step 9). The monitor screen becomes white.

9 Repeat steps 7 and 8 until you have deleted all the images you want to delete in a single page.

10 To delete the images in other memory pages, repeat steps 6, 7, 8 and 9.

11 Press the MENU button.
The regular screen appears.

Supplied Accessories

This printer is packed together with the following accessories. Check that nothing is missing from your package.

Remote control unit RM-5100 (1)

Paper tray (1)

Connecting cable for remote control unit (1)

Paper cover (1)

Ink ribbon holder (3)
• For color printing (with a pink label)
• For B/W printing (with a gray label)
• For OHP printing (with a blue label)

Batteries (2)

AC power cord (1)
Instructions For Use(1)
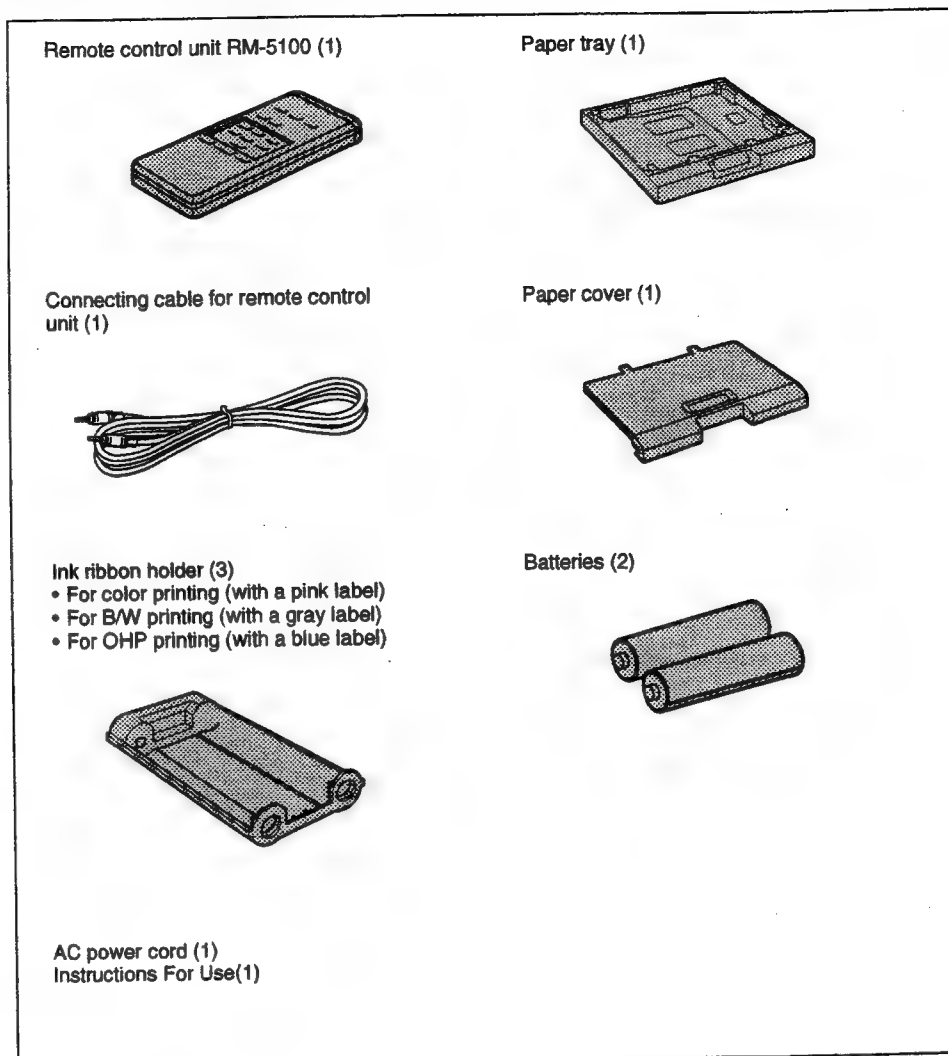
Note

Retain the original carton and packing materials in case you have to transport of this unit in the future.

Assembly

Mount the paper cover and paper tray (both supplied) to the printer.

Paper cover

Paper tray
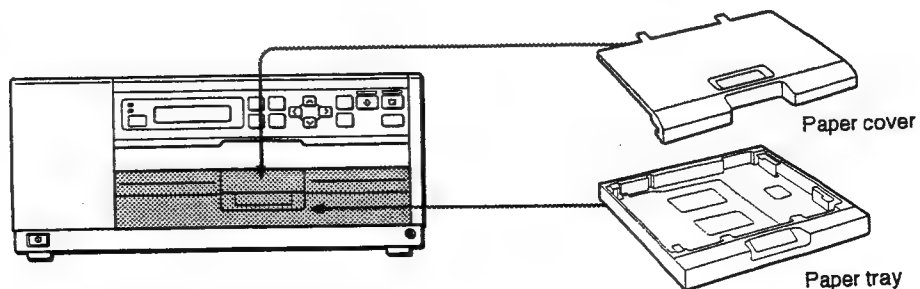
Connections

To enable printing, video equipment or a computer to act as input signal source, and a video or computer monitor to show images or menus must be connected. This section explains system connections for the two types of input signals:
- 625/50 signals
- Hi-scan signals (color and black/white)

The following diagrams illustrate how to make the input, output and remote control connections. Use as a guide when connecting the necessary signals to and from the equipment to be used for printing.

Notes

When connecting:
- Turn off the power of each device before attempting to make any connections.
- Connect the AC power cord last.

Types of Connectable Input Signals and Devices

You can connect the devices to output the following signals to the printer.

Input signals		Devices
625/50 signals	Composite video signals	Video equipment such as video recorders, cameras, disc players, or still picture cameras and transmitters having the video input/output connectors.
	Separated Y /C (S-video) signals	Video equipment such as video recorders or still picture cameras having the S-video input/output connectors.
	RGB signals	Video equipment such as video recorders or still picture cameras having the RGB input/output connectors.
Hi-scan signals	RGB signals/black and white signals	Personal computers (VGA/SVGA, Macintosh, or PC-9800), workstations (SUN, HP, or NEWS), medical equipment, and televisions including high definition televisions.

Note

Interlaced signals whose horizontal and vertical sync signals are separated cannot be input to the printer.

Connecting the Devices That Output 625/50 Signals

Connect the necessary video equipment which will be used in actual printing to printer's VIDEO, S-VIDEO or RGB input/output connectors, using the following diagram as a guide.
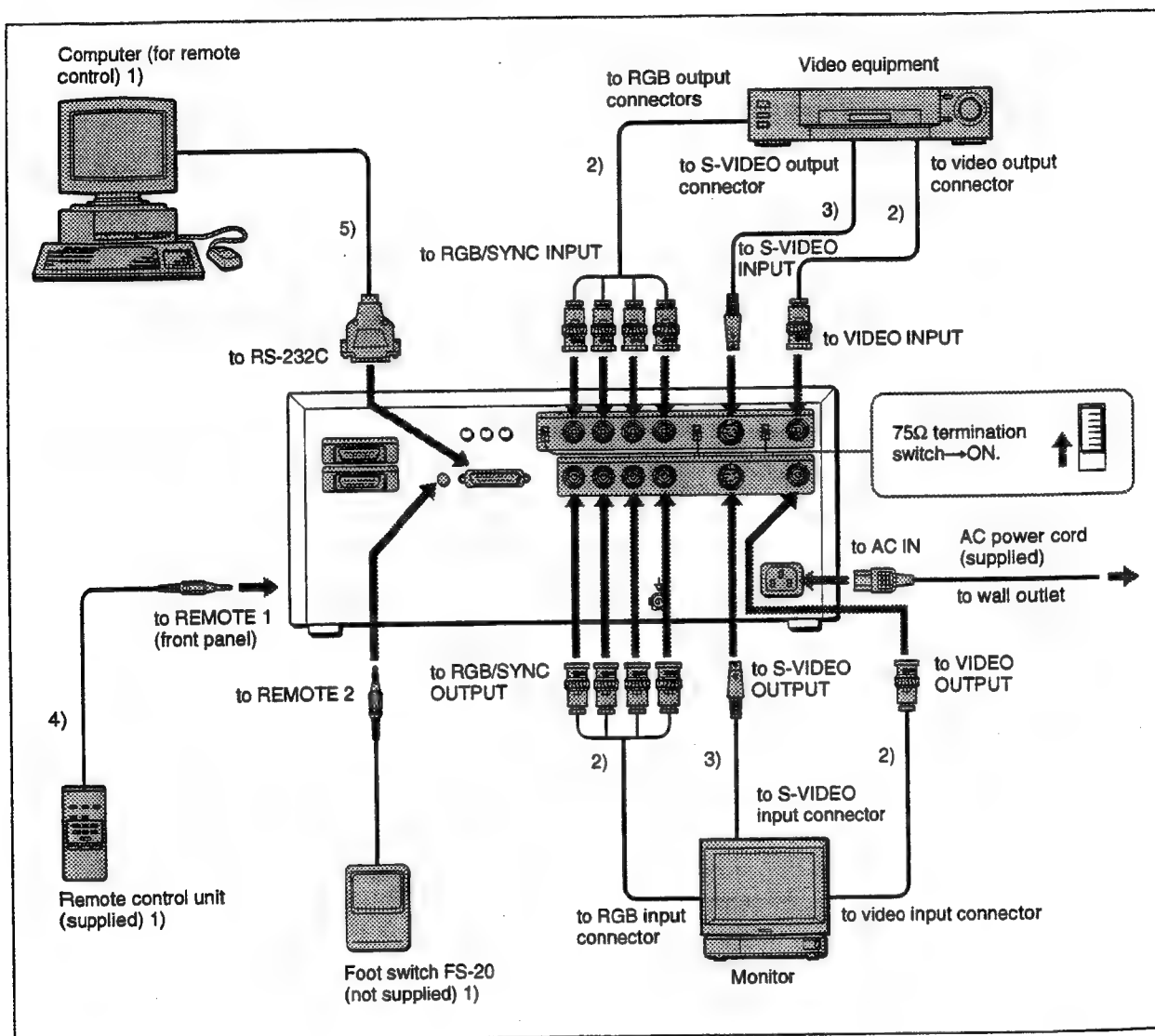
1) These remote control devices (including a computer to control the printer) also control the computer connected to HI-SCAN INPUT connector when hi-scan signal is selected.
2) 75Ω coaxial cable with BNC connectors.
3) Connecting cable (with DIN 4-pin connectors) Sony YC-15EV or equivalent
4) Connecting cable for remote control unit (supplied)
5) RS-232C cable Sony SMF-1015, SMK-0031 or equivalent
6) Normally, set this switch to ON. Set it to OFF if the level of the input signal drops if you connect additional video equipment.

Connecting the Devices That Output Hi-Scan Signals

Connect either computer system or medical equipment system to printer's HI-SCAN input/output connectors, using the following diagram as a guide.
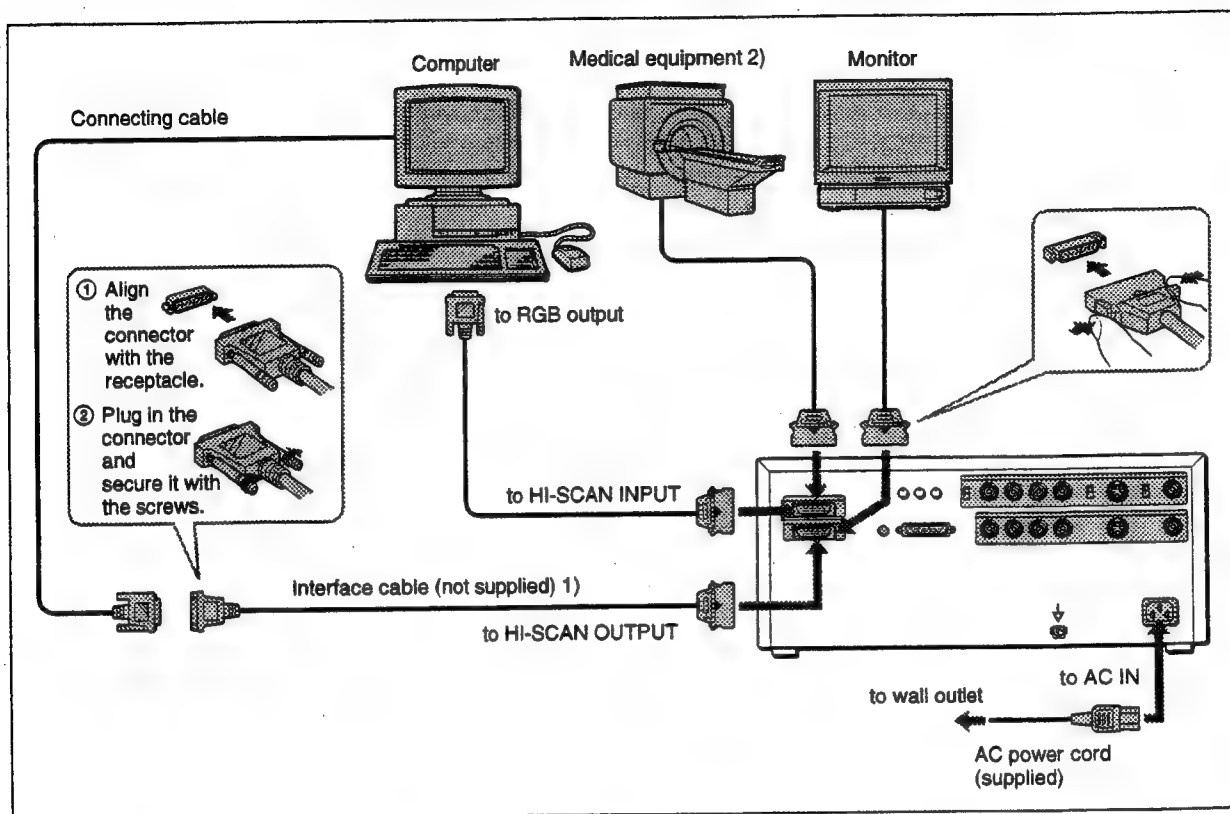
1) Computer Interface Cable
   Use an interface cable suitable for the computer to be connected.
   • Apple Macintosh: UPZ-7000M interface cable
   • IBM PC: UPZ-7000I interface cable
   In both cases, there are a long interface cable and a short interface cable. To connect the computer to the printer, remove the monitor cable, which connects the computer and its monitor, from the computer. Attach the monitor cable and the short interface cable from the printer HI-SCAN OUTPUT connector. Connect the computer RGB output connectors and the printer HI-SCAN INPUT connector with the long interface cable.
2) When the black and white medical signals (1049 lines/60Hz or 1023 lines/60Hz) are input, select the BW mode of the PRINT MODE from the SET UP menu.
3) To connect the medical equipment, special connecting cables are required. Please contact your Sony dealer or Sony service facility.

Preparing the Remote Control Unit

You can control the printer remotely by using the remote control unit supplied or not supplied.

Using the Supplied Remote Control Unit

The supplied remote control unit can be used either as a wireless type or wired type. The buttons on the remote control unit duplicate those on the front panel of the printer, except for the PRT QTY button, COLOR ADJUST button and MULTI PICTURE button. (see "Remote Control Unit" on page 102.)

Inserting batteries

Install the batteries in the remote control unit before using it as a wireless unit.

1 Remove the battery compartment cover.
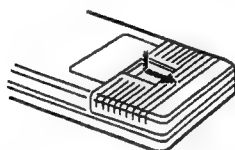
2 Insert the two supplied R6 (size AA) 1.5 V dry batteries.
Note the polarity. Be careful to insert the batteries correctly.
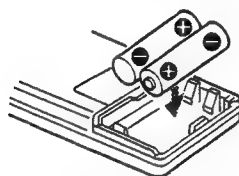
3 Replace the cover.

Battery life
The battery life depends on how much you use the remote control unit. On average, batteries last for about 6 months. Install fresh batteries as soon as you notice the unit's range becoming shorter.

When using the batteries:

- Remove the batteries from the remote control unit if you do not intend to use it for an extended period of time. The batteries may leak if you leave them in the remote control unit.
- Should the batteries leak, clean the battery case thoroughly with a soft cloth and install fresh batteries.
- Be careful to insert the batteries correctly. Note the polarity, as indicated inside the battery compartment.
- Replace exhausted batteries with fresh ones. Never mix a fresh battery with a used battery or with a different kind of battery.

Using the supplied remote control unit as a wireless unit

When using the remote control unit as a wireless unit, aim the head of the remote control unit at the remote sensor on the printer. With fresh batteries, the range of the remote control unit is about 7 meters.

Remote sensor

Color video printer

30°　7m　30°

Remote control unit
(supplied)
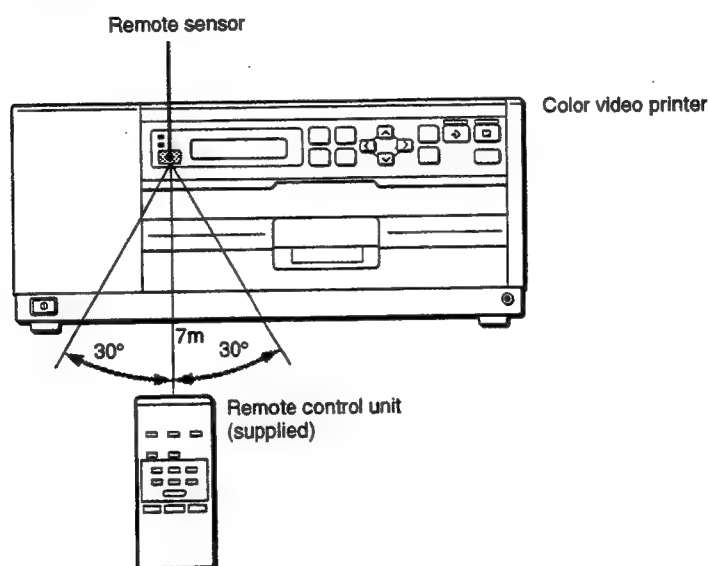
Using the supplied remote control unit as a wired unit

Connect the supplied remote commander to the REMOTE 1 connector of the printer. (See page 38.)

Using the Remote Control Unit (Not Supplied)

The remote control unit not supplied, including the foot switch FS-20, allows you to make prints remotely.

Printing remotely

At the instant the image you want to print is displayed on the monitor, press the switch. The subsequent operation of the printer will depend on the remote operation setting with the corresponding menu. (see "Selecting the Operation Mode for Automatic Printing Capabilities" page 83) The printer operation, also, can be controlled remotely by sending a pulse signal to the REMOTE 2 connector. (see "Specifications" page 91)

Setting the Hi-Scan Input Signals

When you use a device that outputs a hi-scan signal, the printer automatically selects the optimum operating signal among the last-used, user-set and factory-preset signals. If the desired signal is not selected, you can select another preset signal. You can also set individual items of signal timing, and save up to four settings.

Automatic Selection of the Hi-Scan Signal

The printer automatically detects the input-signal timing and selects the optimum operating signal among the last-used, user-saved, and factory-preset signals. This automatic selection functions when:
* the power is turned on when HI is previously selected from the INPUT SEL sub menu,
* HI is selected from the INPUT SEL sub menu and the EXEC button is pressed,
* input-signal timing changes, and
* AUTO SCAN is executed from the HI-SCAN SEL sub menu.

In the above conditions, except for AUTO SCAN, the printer scans the signals in the following order until it finds one most similar to the input-signal timing. (When AUTO SCAN is executed, the printer scans the preset signals only.)

1   The signal on which the printer operated last time.

2   User-set signals (from the smaller SAVE number): four settings the user adjusts individually and saves as SAVED SETTINGS in the HI-SCAN SEL sub menu.

3   Preset signals (from the smaller PRESET number): the factory-set operating modes for 52 different hi-scan signals covering major types of computers, work-stations, televisions, and medical equipment devices.

HI-SCAN SEL sub menu

The selected hi-scan signal is displayed as CURRENT SETTING on the HI-SCAN SEL sub-menu screen. When a preset signal is selected, the signal specifications are displayed under CURRENT SETTING. When the last-used signal is selected, LAST SETTING is displayed instead of the specifications. When a user-saved signal is selected, SAVED SETTINGS and the SAVE number are displayed.

HI-SCAN SEL sub menu
(Example: when one of the preset signal is selected)

```
HI-SCAN SEL
►PC                    [>]
  MEDICAL EQUIP.       [>]
  WORKSTATION          [>]
  TV SIGNAL            [>]
  SAVED SETTINGS       [>]
  AUTO SCAN
```
The selected signal

```
CURRENT SETTING
VGA / SVGA
1024 X 768   48.4KHz
```
Device name*

Interlaced (I) or non-interlaced (without "I" display)

Horizontal sync frequency

Resolution
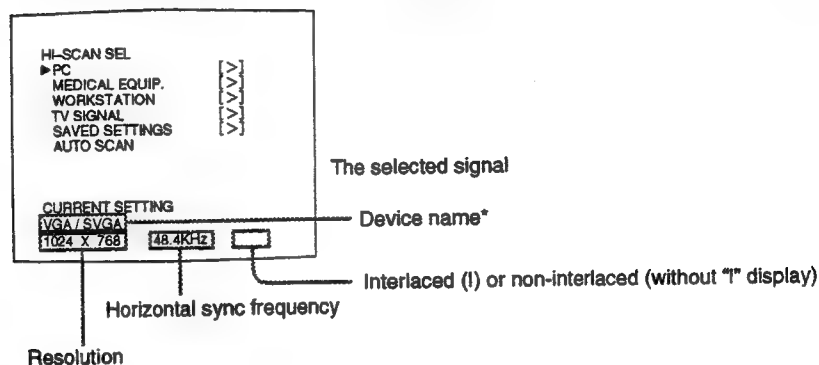
*Device names

Screen Display	Connected devices
VGA/SVGA	IBM PC/AT personal computers and the equivalent
MAC	Apple Macintosh personal computers
PC-98	NEC PC-9800 series personal computers
SUN	SUN workstations
HP	Hewlett Packard workstations
SONY	Sony NEWS workstations
MEDICAL 1 to 3	Medical equipment

For the detailed signal specifications, select SAVED SETTINGS and press the > button. The specification items of the signal on which the printer is operating are shown on the screen. You can adjust individual items and save up to four settings as SAVED SETTINGS. (See "Setting a Signal not Included in the Preset Signals" on page 47.)

Priority among the similar preset signals

The preset signals in groups 1 to 7 shown below are so similar to each other that it is difficult to identify them as different. When the input-signal timing is similar to that of the signals in a group, the printer selects the signal typed in boldface prior to the rest of the group. When a signal is not selected, you can select one later from the HI-SCAN SEL sub menu. (See "Selecting the Desired Preset Signal" on page 44.)

Groups	Device name	Resolution	Horizon Sync. Frequency
1	VGA/SVGA	640 × 350	31.5kHz
	VGA/SVGA	**640 × 400**	**31.5kHz**
	PC-98	640 × 400	31.5kHz
2	VGA/SVGA	640 × 480	31.5kHz
	MEDICAL 1	**770 × 480**	**31.5kHz**
3	**VGA/SVGA**	**1,024 × 768**	**56.5kHz**
	HP	1,024 × 768	56.5kHz
4	**MAC**	**1,024 × 768**	**60.2kHz**
	HP	1,024 × 768	60.2kHz
5	**HP**	**1,280 × 1,024**	**63.4kHz**
	SONY	1,280 × 1,024	63.3kHz
6	**MAC**	**1,024 × 768**	**48.2kHz**
	SONY	1,024 × 768	48.8kHz
7	**MEDICAL 1**	**700 × 1,024**	**33.6kHz**
	HDTV	1.280 × 1,024	33.8kHz

Selecting the Desired Preset Signal

You can select a different preset signal from the one automatically selected by the printer. (For the list of the preset signals, see "Printer Window Display and the Video Monitor Display" on page 106.) This section explains how to change the operating preset signal using the following example; selecting the Macintosh 1024 × 768 (48.2kHz) signal when the printer automatically selected the VGA/SVGA 1024 × 768 (48.4kHz).
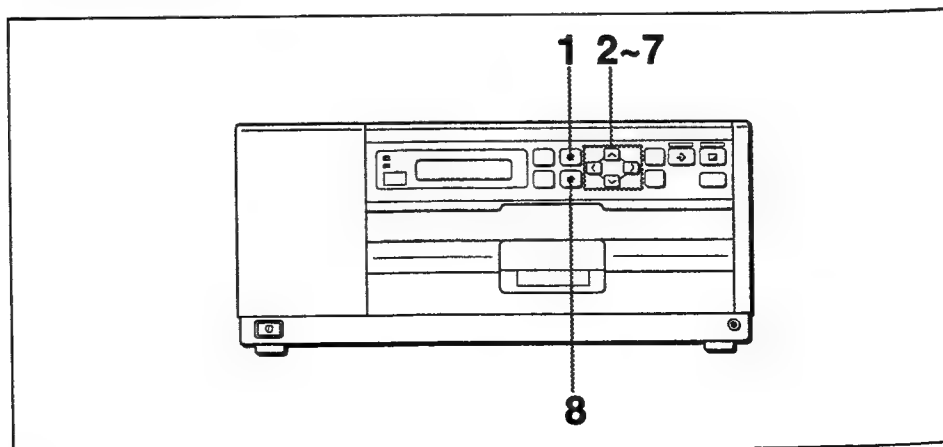
1 Press the MENU button and select HI-SCAN SEL by pressing the ∧ or ∨ button.

Video monitor display

```
HI-SCAN          COLOR 100
   INPUT  SEL        [>]
■HI-SCAN SEL         [>]
   COLOR  ADJ        [>]
   PIX QUALITY       [>]
   CLEAR             [>]
   CAPTION           [>]
   SET  UP           [>]
```

Move the cursor to HI-SCAN SEL
by pressing the ∧ or ∨ button.

Printer window display

```
>HI–SCAN  SEL
                   [>]
```
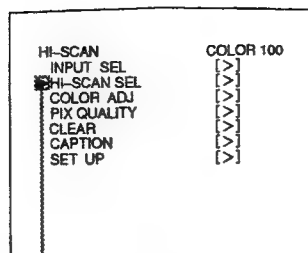
Press the ∧ or ∨ button until HI-
SCAN SEL appears.

2 Press the > button.
The following screen appears. The signal currently selected is displayed as CURRENT SETTING.

HI-SCAN SEL sub-menu

```
HI-SCAN SEL
►PC                  [>]
   MEDICAL EQUIP.    [>]
   WORKSTATION       [>]
   TV SIGNAL         [>]
   SAVED SETTINGS    [>]
   AUTO SCAN

 CURRENT SETTING
 VGA / SVGA
 1024  X  768    48.4KHz
```

Currently selected signal

Part of HI-SCAN SEL sub-menu.

```
>PC
                   [>]
```
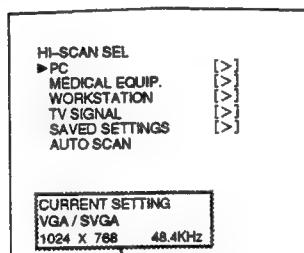
3 Select PC by pressing the ∧ or ∨ button.

Device connected to HI-SCAN INPUT	Item to be selected
Personal computer	PC
Medical equipment	MEDICAL EQUIP.
Workstations	WORKSTATION
Television	TV SIGNAL

4 Press the > button.
The following screen appears.

```
PC
►VGA / SVGA          [>]
   MAC               [>]
   PC–98             [>]
```

```
>VGA / SVGA
                   [>]
```
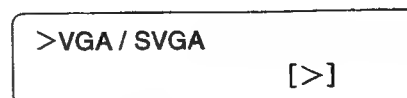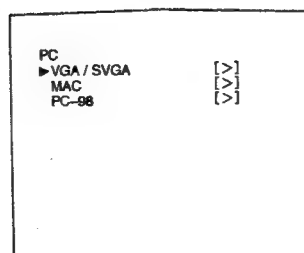
5 Select MAC by pressing the ∧ or ∨ button.

```
PC
   VGA / SVGA      [>]
▶MAC              [>]
   PC-98           [>]
```
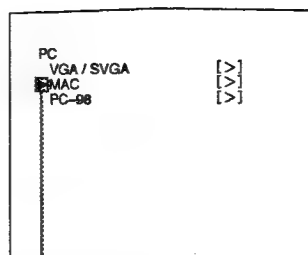
Move the cursor to MAC by
pressing the ∧ or ∨ button.

```
>MAC
              [>]
```

Press the ∧ or ∨ button until MAC appears.

6 Press the > button.
The list of preset signals for Macintosh personal computers appears.
PUSH [EXEC] appears.

```
MAC
▶640 X 480        35.0KHz
  1024 X 768      48.2KHz
  832 X 624       49.1KHz
  1024 X 768      60.2KHz
  1152 X 870      68.7KHz
              PUSH [EXEC]
```

```
>640 X 480        35.0KHz
          PUSH [EXEC]
```
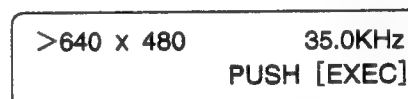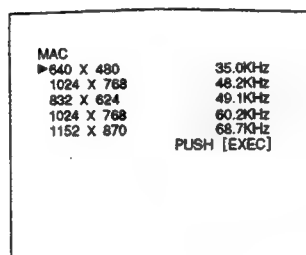
7 Select 1024 × 768 (48.2kHz) signal by pressing the ∧ or ∨ button.

```
MAC
  640 X 480        35.0KHz
▶1024 X 768       48.2KHz
  832 X 624        49.1KHz
  1024 X 768       60.2KHz
  1152 X 870       68.7KHz
               PUSH [EXEC]
```
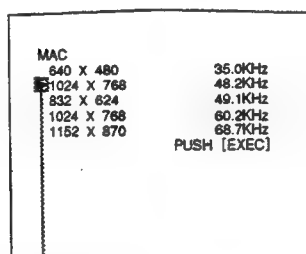
Move the cursor to 1024 × 768 (48.2kHz)
by pressing the ∧ or ∨ button.

```
>1024 X 768       48.2KHz
              [>]
```
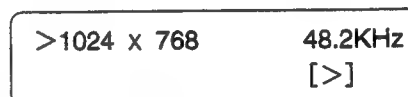
Press the ∧ or ∨ button until 1024 × 768
(48.2kHz) appears.

8 Press the EXEC button.
The printer is set to the selected signal in step 7. The printer display returns to
the regular screen.

To confirm that the desired signal is selected

Perform steps 1 and 2 to display the HI-SCAN SEL sub menu. Make sure that the desired signal is selected as CURRENT SETTING.

```
HI-SCAN SEL
►PC                    [>]
  MEDICAL EQUIP.       [>]
  WORKSTATION          [>]
  TV SIGNAL            [>]
  SAVED SETTINGS       [>]
  AUTO SCAN

 ┌─────────────────┐
 │CURRENT SETTING  │
 │MAC              │
 │1024 X 768  48.2KHz│
 └─────────────────┘
```
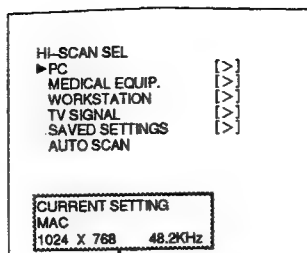
```
>PC
                  [>]
```

Newly selected signal

Setting a Signal not Included in the Preset Signals

When a special signal is input that is not included in the preset signals, adjust individual items of the signal specifications on the SAVED SETTINGS sub menu to obtain the optimum operating modes. You can store up to four settings in memory.

Next time you turn on the printer, the printer compares the input signal with the last-used signal first, and then the four user-saved signals, and finally, the 52 factory-preset signals.

Before adjusting each item, turn the printer off and on, or select HI from the INPUT SEL sub menu, or execute AUTO SCAN so that the printer automatically selects the signal most similar to the input signal and you can adjust each item.
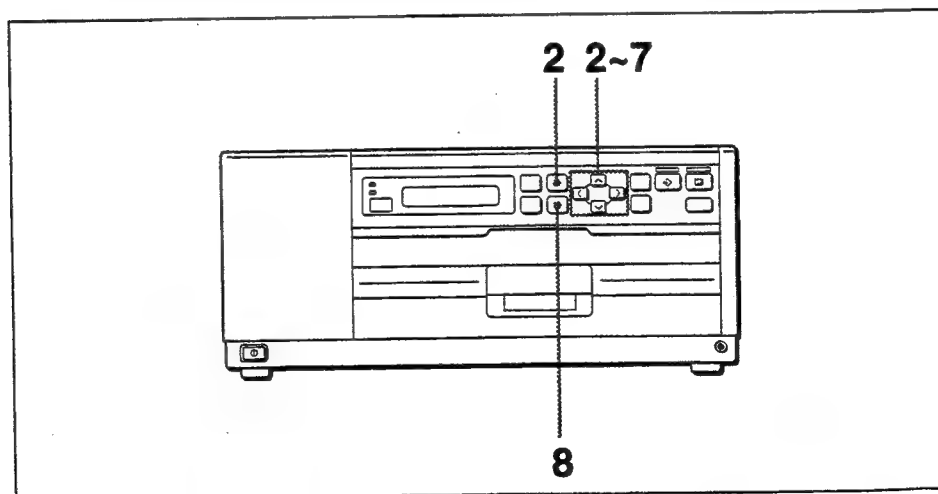
1 Display the image of the input signals processed by the printer's internal circuits and output to the monitor.

2 Press the MENU button and select HI-SCAN SEL by pressing the ∧ or ∨ button.

Video monitor screen

```
HI-SCAN         COLOR 100
  INPUT SEL        [>]
■HI-SCAN SEL       [>]
  COLOR ADJ        [>]
  PIX QUALITY      [>]
  CLEAR            [>]
  CAPTION          [>]
  SET UP           [>]
```

Move the cursor to HI-SCAN SEL
by pressing the ∧ or ∨ button.

Printer window display

```
>HI-SCAN  SEL
                 [>]
```

Press the ∧ or ∨ button until HI-SCAN
SEL appears.

3 Press the > button.
The following screen appears. The signal currently selected is displayed as
CURRENT SETTING.

HI-SCAN SEL sub menu

```
HI-SCAN SEL
►PC               [>]
  MEDICAL EQUIP.  [>]
  WORKSTATION     [>]
  TV SIGNAL       [>]
  SAVED SETTINGS  [>]
  AUTO SCAN

 CURRENT SETTING
 SUN
 1152 X 900    61.8KHz
```

Currently selected signal

Part of HI-SCAN SEL sub menu.

```
>PC
                 [>]
```

4 Select SAVED SETTINGS by pressing the ∧ or ∨ button.

```
HI-SCAN SEL
  PC              [>]
  MEDICAL EQUIP.  [>]
  WORKSTATION     [>]
  TV SIGNAL       [>]
■SAVED SETTINGS   [>]
  AUTO SCAN

 CURRENT SETTING
 SUN
 152 X 900    61.8KHz
```
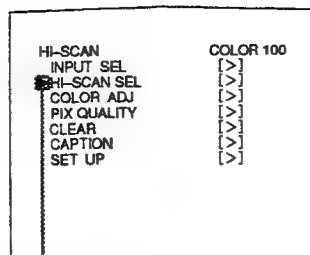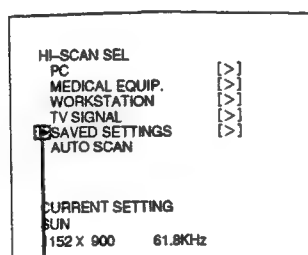
Move the cursor to SAVED
SETTINGS by pressing the ∧ or ∨

```
>SAVED  SETTINGS
                  [>]
```
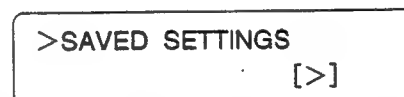
button.
Press the ∧ or ∨ button until SAVED
SETTINGS appears.

5 Press the > button.
The following screen appears. The specifications of the signal currently set are
displayed on the screen.

Note

Depending on the type of input signal, values of specification items displayed may differ from the actual signal values.

SAVED SETTINGS sub menu

```
►LOAD        : 1 2 3 4
 DOT FREQ    : 92.94MHz
 H FREQ      : 61.80KHz
 H SIZE      : 1152DOTS
 V SIZE      : 900 LINES
 H START     : 300 DOTS
 V START     : 31 LINES
 V JITTER    : 0
 ASPECT      : 1 2 3 4
 SAVE        : 1 2 3 4
               PUSH [EXEC]
```

Part of SAVED SETTINGS sub menu.

```
>LOAD        PUSH [EXEC]
  ☀1 · 2 · 3 · 4
```
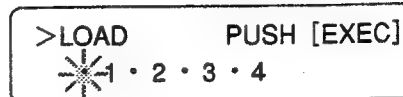
6 Adjust each item.
① Select the item to be set by pressing the ∧ or ∨ button.
② Adjust the item by pressing the < or > button.
When adjusting DOT FRQ, H FRQ, H SIZE, and V SIZE, pressing the ∨ button together with the < and > buttons makes the numbers change quickly. (This function is not available when you are using the remote control unit.)

Adjustment Item	Adjustable range	Adjustable unit	Settings
DOT FRQ	8.00 MHz to 120.00 MHz	0.01 MHz	Eliminating distortion caused by beat interference when the dot clock frequency and sampling frequency are not synchronized.
H FRQ	15.00 kHz to 89.00 kHz	0.01 kHz	Eliminating distortion caused by the discrepancy in the horizontal sync frequency of the input signal.
H SIZE	300 dots to 1,280 dots	2 dots*	Adjusting the horizontal screen size. Adjust it so that the right and left sides of the image are not missing.
V SIZE	200 lines to 1,240 lines	1 or 2 lines**	Adjusting the vertical screen size. Adjust it so that the upper and bottom ends of the image are not missing.
H START			Shifting the image horizontally. Adjust it so that the left and right sides of the image are not missing.
V START			Shifting the image vertically. Adjust it so that the upper and bottom ends of the image are not missing.
V JITTER			Eliminating the vertical jitter of the image or noise in the picture of the interlaced signal image.
ASPECT			Adjust the aspect ratio of a printout. Select either of the four by pressing the < or > button: 1: Setting the aspect ratio of dots making up the printout image to 1 to 1. (Mainly when connecting workstations) 2: Setting the aspect ratio of width and height of the printout to 1 to 1. (Mainly when connecting medical equipment) 3: Setting the aspect ratio of width and height of the printout to 3 to 4. (When connecting PAL RGB signals to HI-SCAN INPUT) 4: Setting the aspect ratio of width and height of the printout to 9 to 16. (When connecting high definition television)

* The horizontal screen size only changes when the range is changed by 4 dots, although the range on the menu is adjustable to 2 dots by 2 dots.
** Depending on the type of hi-scan input signal.

```
  V START      : 31 LINES
  V JITTER     : 0
 [ ]ASPECT     : 1 2 3 4
  [ SAVE       : 1 2 3 4
                [PLEASE SAVE]
```
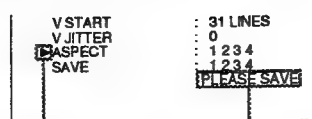
PLEASE SAVE message appears.

Select the item to be set by
pressing the ∧ or ∨ button.

```
  >ASPECT
     1 · 2 · 3 · 4
```

Press the ∧ or ∨ button until the item to
be set appears.

Notes

- When setting values very different from those of the input signal, the image previously stored may not print correctly.
- When setting the DOT FRQ to a value larger than 31.00 MHz, the resolution of the source signals output to the monitor after being processed in the printer's circuits (with the MONITOR setting at E TO E) changes, affecting the image displayed on the monitor. To monitor the source signals, set the MONITOR to THRU. The change in the resolution, however, does not affect printout pictures.
- When you change setting of SAVED SETTINGS, make sure to store an image for printing.

Once you have changed the value

PLEASE SAVE appears on the screen.
Perform steps 7 and 8 to save the settings and store an image for printing.

7 Select SAVE by pressing the ∧ or ∨ button and select the SAVE number to which the new settings are to be stored by pressing the < or > button. PUSH [EXEC] appears.

```
  V START      : 31 LINES
  V JITTER     : 0
  ASPECT       : 1 2 3 4
 ►SAVE         : 1 2 3 4
                PUSH [EXEC]
```

Shift the desired number to green.

```
  >SAVE          PUSH [EXEC]
     · 1 ·✳2 · 3 · 4
```

Move the blinking cursor to the desired
number.

8 Press the EXEC button.
The settings have been registered to the SAVE number selected in step 7. The printer display returns to the regular screen.

To recall a saved setting

① Perform steps 1 to 5 to display the SAVED SETTINGS sub menu on the screen.
② Select LOAD by pressing the ∧ or ∨ button.
③ Select the LOAD number equal to the SAVE number with which the setting you want to recall is saved, and press the EXEC button.
The saved setting is recalled and the printer starts operating with the saved signal setting. The printer display returns to the regular screen.

To adjust a saved setting

① Perform steps ① to ③ on page 50 to recall the saved setting you want to adjust.
② Adjust the items by pressing the .∧ , ∨ , < or > button.
③ Select the SAVE number you want to save the adjusted setting and press the EXEC button.
    To preserve the original setting, select a different SAVE number as the LOAD (SAVE) number recalled. When the EXEC button is pressed, the adjusted setting is saved and the printer starts operating on the setting. The printer display returns to the regular screen.

Performing auto scanning again

If you select an inappropriate preset signal or set wrong values for items of the SAVED SETTINGS, you can cancel the settings by auto scanning again. Select AUTO SCAN from the HI-SCAN SEL sub menu and press the EXEC button. The printer automatically selects the optimum operating signal by scanning the factory-set 52 signals only. The four user-saved settings and the last-used setting are excluded in the auto scanned signals. (See "Automatic Selection of the Hi-Scan Signal" on page 42.)

You can adjust the printout quality, including its sharpness and color (intensity and contrast) and store these settings by using the menu. You can also eliminate the blur from a printout.

Adjusting the Sharpness

You can set the printout sharpness to one of three levels: L (Low), M (Medium) or H (High). A printout will appear softer or sharper depending on the definition of the subject outline. The image on the monitor is not affected by changing the sharpness setting. This adjustment affects only the quality of the printout. The setting remains as is until reset - even if you turn off the power.
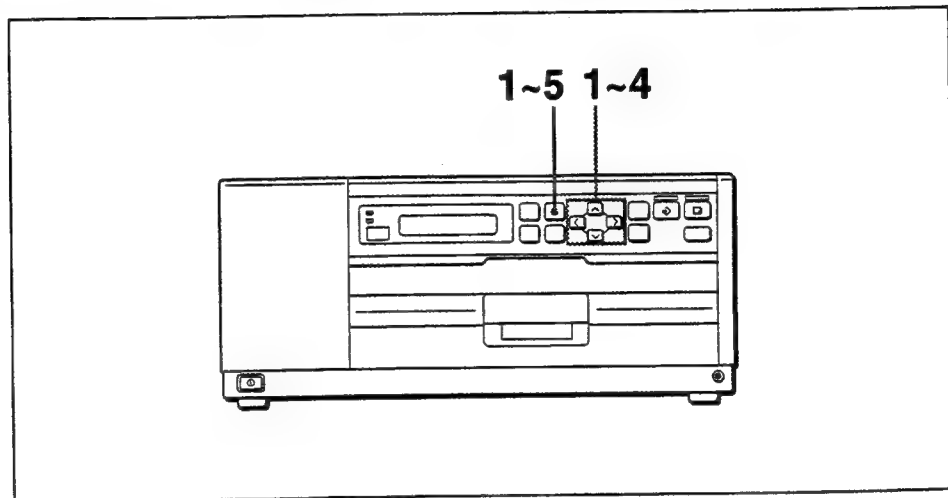
1~5 1~4

1 Press the MENU button and select PIX QUALITY by pressing the ∧ or ∨ button.

Video monitor screen

```
625              COLOR 100
  INPUT SEL        [>]
  COLOR ADJ        [>]
▓PIX QUALITY       [>]
  CLEAR            [>]
  CAPTION          [>]
  SET UP           [>]
```

Move the cursor to PIX QUALITY by pressing the ∧ or ∨ button.

Printer window display

```
>PIX QUALITY
                   [>]
```

Press the ∧ or ∨ button until PIX QUALITY appears.

2 Press the > button.
The following screen appears.

PIX QUALITY sub menu

```
PIX QUALITY
►SHARPNESS      : L M H
 RESIZE RATIO   : 100%
 MOTION CORRECT : ON OFF
```

Part of PIX QUALITY sub menu.

```
>SHARPNESS
 -⚹L · M · H
```
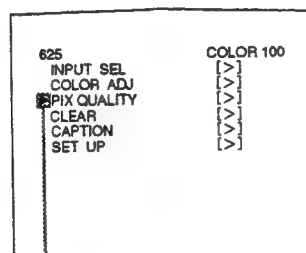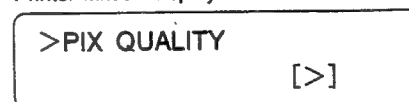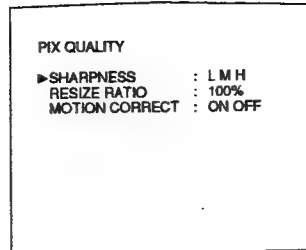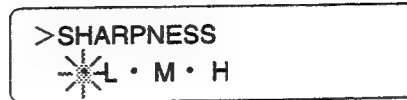
3 Select SHARPNESS by pressing the ∧ or ∨ button.

```
PIX QUALITY
▓SHARPNESS      : L M H
 RESIZE RATIO   : 100%
 MOTION CORRECT : ON OFF
```

```
>SHARPNESS
 -⚹L · M · H
```
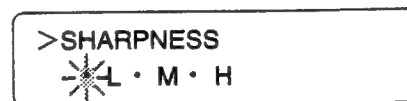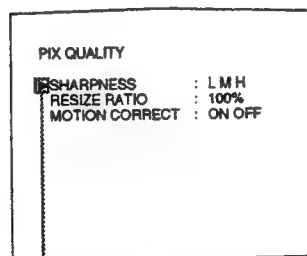
Press the ∧ or ∨ button until SHARPNESS
appears.

Move the cursor to SHARPNESS
by pressing the ∧ or ∨ button.

4 Select the desired sharpness by pressing the < or > button.

```
PIX QUALITY
►SHARPNESS      : L M H
 RESIZE RATIO   : 100%
 MOTION CORRECT : ON OFF
```

```
>SHARPNESS
 ⚹L · M · H
```
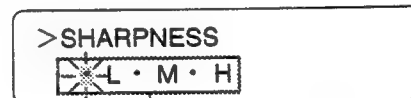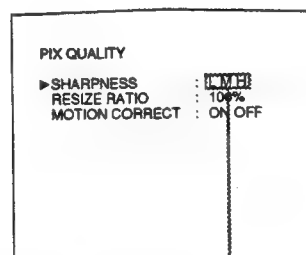
Move the blinking cursor to the desired
sharpness.

Switch the desired sharpness to
green by pressing the < or >
button.

Desired sharpness	Content of settings
L (Low)	Soft outline
M (Medium)	Normal outline
H (High)	Sharp outline

5 Press the MENU button.
The regular screen appears.

Adjusting the Color

This subsection explains how to adjust the printout color intensity (RED/GREEN/ BLUE) and contrast (DARK/LIGHT).

You can save up to three adjusted settings with PRESET numbers and recall one of the three settings by selecting the corresponding PRESET number later. The printer retains these settings even if you turn off the power.

This is useful when you are using more than one unit of video equipment, each of a different quality, and when you want to print images having different color qualities and picture contrasts.

Also, you can make a printout using temporarily set values, without erasing the stored adjustment values.

Using the remote control unit (supplied)

You can directly access the COLOR ADJ sub menu from the regular screen by just pressing the COLOR ADJUST button. Press the COLOR ADJUST button first and follow the procedures starting with step 5.

2,10 2~8

7,9
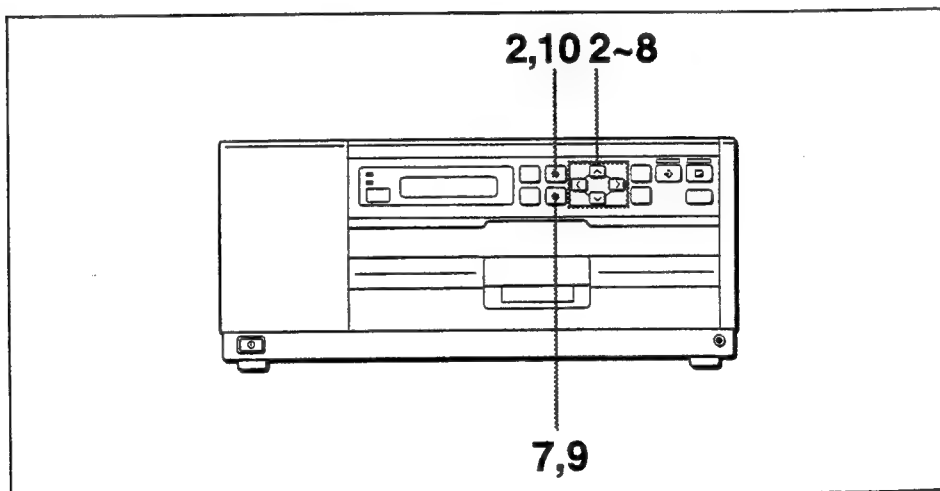
1 Display the stored image for adjustment on the monitor screen.

2 Press the MENU button and select COLOR ADJ by pressing the ∧ or ∨ button.

Video monitor screen

```
625                 COLOR 100
  INPUT  SEL          [>]
 COLOR  ADJ           [>]
  PIX QUALITY         [>]
  CLEAR               [>]
  CAPTION             [>]
  SET  UP             [>]
```
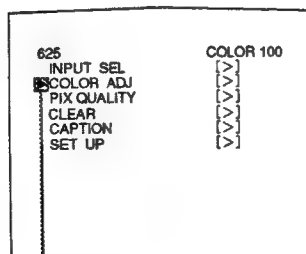
Move the cursor to COLOR ADJ by pressing the ∧ or ∨ button.

Printer window display

```
>COLOR  ADJ
                    [>]
```
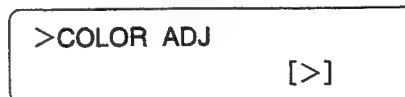
Press the ∧ or ∨ button until COLOR ADJ appears.

3 Press the > button.

The following screen appears.

To adjust the values saved in one of the PRESET numbers, proceed to step 4.

To adjust the values currently selected and displayed on the monitor, proceed to step 6.

COLOR AD sub menu

```
COLOR ADJ
►DISPLAY : FULL SINGLE
  PRESET : 1 2 3
  RED    : 0  ------*------
  GREEN  : 0  ------*------
  BLUE   : 0  ------*------
  DARK   : 0  ------*------
  LIGHT  : 0  ------*------
  CHECK  :
  SAVE   : 1 2 3
```
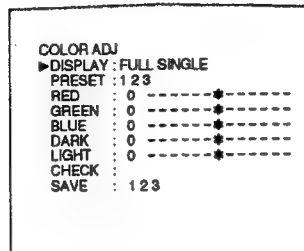
Part of the COLOR AD sub menu

```
>DISPLAY
 -☀-FULL · SINGLE
```
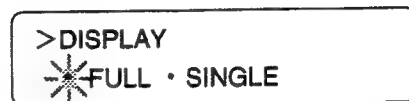
4 Select PRESET by pressing the ∧ or ∨ button.

```
COLOR ADJ
  DISPLAY : FULL SINGLE
►►PRESET : 1 2 3
  RED    : 0  ------*------
  GREEN  : 0  ------*------
  BLUE   : 0  ------*------
  DARK   : 0  ------*------
  LIGHT  : 0  ------*------
  CHECK  :
  SAVE   : 1 2 3
```
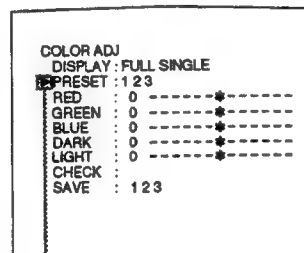
Move the cursor to PRESET by pressing the ∧ or ∨ button.

```
>PRESET
 -☀-1 · 2 · 3
```
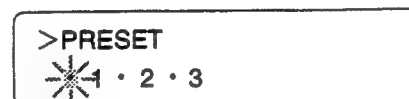
Press the ∧ or ∨ button until PRESET appears.

5 Select the PRESET number of the value to be adjusted by pressing the < or > button.

Currently set values are displayed on the screen. You can preserve the original settings. (see "To preserve the original set values" on page 57)

```
COLOR ADJ
  DISPLAY : FULL SINGLE
►PRESET :[1 2 3]
  RED    : 0  ------*------
  GREEN  : 0  ------*------
  BLUE   : 0  ------*------
  DARK   : 0  ------*------
  LIGHT  : 0  ------*------
  CHECK  :
  SAVE   : 1 2 3
```
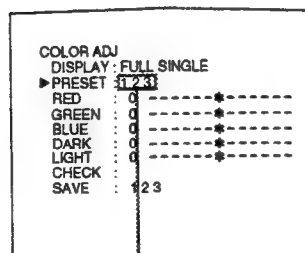
Switch the desired PRESET number to green by pressing the < or > button.
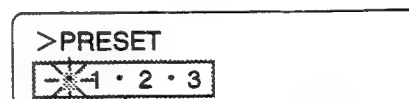
```
>PRESET
 -☀-1 · 2 · 3
```

Move the blinking cursor to the desired PRESET number.

6 Adjust the printout color.

① Select the item to be set by pressing the ∧ or ∨ button.

② Perform the adjustment by pressing the < or > button.

The level (value) of each adjustment item increases by pressing the > button, and decreases by pressing the < button.

The level is divided into 15 scales from –7 to +7, as indicated by a value and position in the graph. The center of the graph corresponds to the standard level 0. By pressing the < and > buttons together, you can quickly reset to the standard level. (Pressing the < and > buttons on the remote control unit does not allow you to rest the value to 0.)

Adjustment item		Settings
Color intensity	RED	Adjusting the intensity of the red component of the image.
	GREEN	Adjusting the intensity of the green component of the image.
	BLUE	Adjusting the intensity of the blue component of the image.
Color contrast	DARK	Adjusting the contrast in the dark area of an image.
	LIGHT	Adjusting the contrast in the light area of an image.

```
COLOR ADJ
 DISPLAY : FULL SINGLE
 PRESET : 1 2 3          TEMP
█RED    : 0  ------*------
 GREEN  : 0  ------*------
 BLUE   : 0  ------*------
 DARK   : 0  ------*------
 LIGHT  : 0  ------*------
 CHECK  :
 SAVE   : 1 2 3
```

Move the cursor to the adjustment item by pressing the ∧ or ∨ button.

```
>RED : 0

------*------
```

Press the ∧ or ∨ button until the adjustment item appears.

When the image in a light or dark area of the printout does not appear

When the image in a light area does not appear, select LIGHT and reduce the contrast by pressing the < button until the image can be seen. When the image in a dark area does not appear, reduce the DARK contrast level.

If these adjustments do not work, adjust the level of the input signals. (See "Compensating for the Colors and Level of Input Signals" on page 58.)

Once you have changed the value

Once you have changed the value, TEMP (TEMPORARY) appears to the right of the PRESET item. TEMP indicates that the setting is temporary and not stored.

7 After you have made all necessary adjustments, check your presetting.

① Select CHECK by pressing the ∧ or ∨ button.

PUSH [EXEC] appears.

② Press the EXEC button.

For as long as you keep the EXEC button held down, the display does not appear on the screen.

You can print with the settings made. Press the MENU button and make a printout. However, this setting is cleared when you turn the printer off or you select another PRESET number. To store a new setting, go to the next step.

8 Select SAVE by pressing the ∧ or ∨ button and select the SAVE number to which new settings are to be stored by pressing the < or > button.

```
COLOR ADJ
  DISPLAY : FULL SINGLE        TEMP
►PRESET : 1 2 3
  RED    : 0  ------*------
  GREEN  : 1  --------*-----
  BLUE   : 2  ---------*----
  DARK   : 0  -------*------
  LIGHT  : 0  -------*------
  CHECK  :
  SAVE   : 123

                  PUSH [EXEC]
```
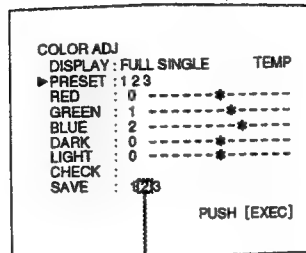
Switch the desired SAVE number to green by pressing the < or > button.

```
>SAVE          PUSH [EXEC]
  · 1  2 · 3
```
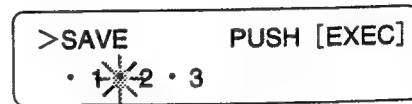
Move the blinking cursor to the desired SAVE number .

To preserve the original set values

Select the SAVE number which is different from the PRESET number selected in step 5.

9 Press the EXEC button.
The settings have been registered to the SAVE number selected in step 8 and the TEMP disappears from the PRESET line.

10 Press the MENU button.
The printer display returns to the regular screen.

To make a printout with the stored settings

Select PRESET on the COLOR ADJ sub menu and select the desired PRESET number you want to recall. Then return to the regular screen and print an image. The printer prints the image according to the set values of the selected PRESET number.

To make the image under the menu items more visible—DISPLAY settings

If the image on the screen is hidden under the menu items, you can decrease the menu items displayed on the screen and make the image more visible.

① Select DISPLAY by pressing the ∧ or ∨ button.
② Select SINGLE by pressing the < or > button.
   FULL: Displays all menu items on the screen (normal screen).
   SINGLE: Displays part of the menu items on the screen.

FULL display mode
All the items are displayed on the screen.

SINGLE display mode
The item currently selected with the cursor is displayed.
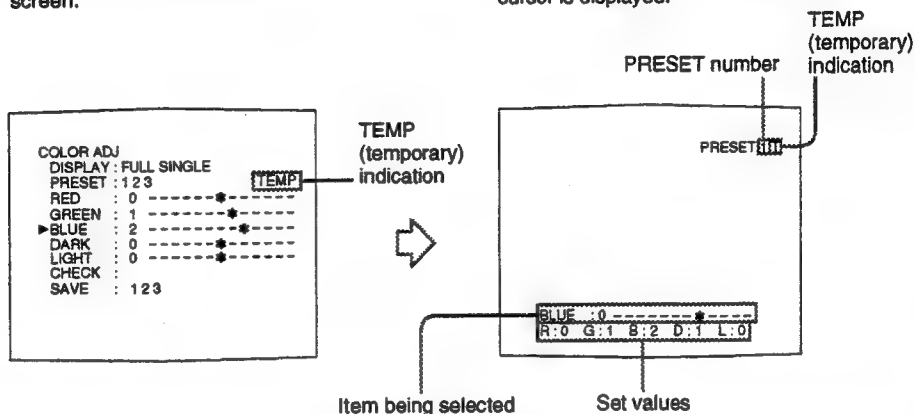
Compensating for the Color and Level of Input Signals

Video image recorded under poor conditions may be of poor color quality. If the signal is an PAL composite video signal or separate luminance (Y) and chrominance (C) signals, you can correct the color quality and intensity of the input signal to a certain extent.

Before starting adjustment

Open the ribbon door and set the GAIN, COLOR controls to their center click position.
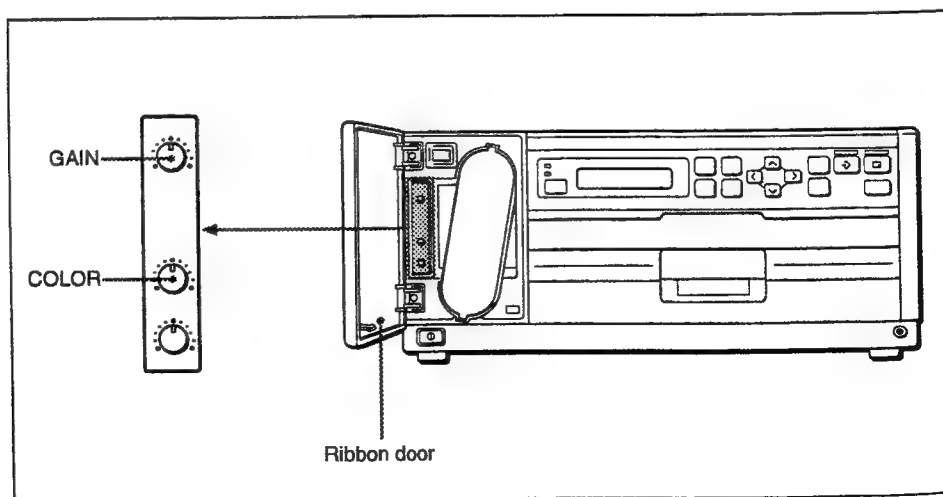
1 When the memory image is displayed on the screen, press the SOURCE/ MEMORY button.

The image from the video source appears.

2 Adjust the color and level while viewing the image on the monitor.

Control to be adjusted	Content of adjustment	Operation
GAIN	Compensating for the input signal level	When the image in the dark area cannot be seen clearly, turn it clockwise until the image is visible. When the image in the light area cannot be seen, turn it counter-clockwise.
COLOR	Adjusting the color intensity	Turn it clockwise to strengthen the color intensity and counter-clockwise to weaken it.

Notes
- Do not change the MONITOR RGB control setting on the rear of the printer, or the color control setting of the monitor when a video signal is input to the monitor.
- You cannot adjust the image once it has been stored in memory. Make adjustments before storing the image or store an image after adjustment.

Eliminating the Blur From a Printout

The images on a printout may be blurred when:
- A quickly moving image is stored and printed. (See "Printing the quickly-moving image without blur" on page 59.)
- A hi-scan input signal is input and the V JITTER is not set correctly. (See "Adjusting the vertical jitter setting of the hi-scan input signal" on page 62.)
  Eliminate the blur according to the procedures described for each case.

Printing the quickly-moving image without blur

A quickly-moving image may be blurred when attempting to make a printout of a full-size image, two- or four-reduced images. If this happens, you can eliminate the blur by changing the MOTION CORRECT setting.

1-5 1-4

1 Press the MENU button and select PIX QUALITY by pressing the ∧ or ∨ button.

Video monitor screen

625
INPUT SEL   COLOR 100
COLOR ADJ   [>]
▓PIX QUALITY   [>]
CLEAR   [>]
CAPTION   [>]
SET UP   [>]

Move the cursor to PIX QUALITY by pressing the ∧ or ∨ button.

Printer window display

>PIX QUALITY
                    [>]

Press the ∧ or ∨ button until PIX QUALITY appears.

2 Press the > button.
The following screen appears.

PIX QUALITY sub menu

PIX QUALITY

▶SHARPNESS   : L M H
RESIZE RATIO   : 100%
MOTION CORRECT   : ON OFF

Part of PIX QUALITY sub menu.

>SHARPNESS
    ☀L · M · H

3 Select MOTION CORRECT by pressing the ∧ or ∨ button.

```
PIX QUALITY

  SHARPNESS       : L M H
  RESIZE RATIO    : 100%
  MOTION CORRECT  : ON OFF
```
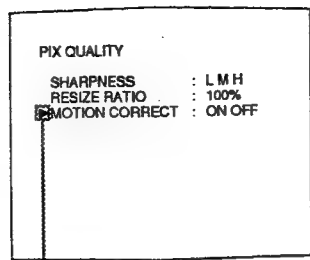
```
>MOTION  CORRECT
  -☀-ON · OFF
```

Press the ∧ or ∨ button until MOTION CORRECT appears.

Move the cursor to MOTION CORRECT by pressing the ∧ or ∨ button.

4 To eliminate the blur, select ON by pressing the < or > button.
ON: Eliminating the blur.
OFF: Clears the motion correct function.

```
PIX QUALITY

  SHARPNESS       : L M H
  RESIZE RATIO    : 100%
  ►MOTION CORRECT : ON OFF
```
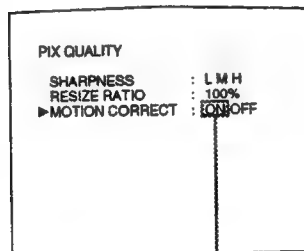
```
>MOTION  CORRECT
  -☀-ON · OFF
```

Move the blinking cursor to ON.

Switch ON to green by pressing the < or > button.

5 Press the MENU button.
The regular screen appears.

```
c



  QTY1 A 1/1   MTN   S
```

```
C
QTY1  A  1/1   MTN     S
```
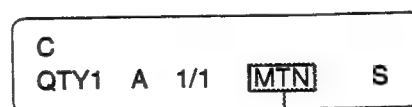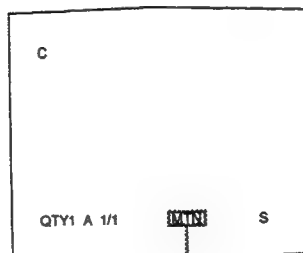
MTN appears when you set MOTION CORRECT to ON.

To check the adjustment result
Store an image and print it to check the result. You cannot adjust the image once it has been stored in memory. If the blur cannot be eliminated and you input a hi-scan signal, perform the steps to adjust the vertical jitter setting and view the result. (See "Adjusting the vertical jitter setting of the hi-scan input signal" on page 62.)

Adjusting the Printout Quality (continued)

Adjusting the vertical jitter setting of the hi-scan input signal

When a hi-scan signal is input and the V JITTER is not correctly set, even a still picture can be blurred when stored and printed. Display the stored image on the screen, and if you find the image jitters vertically, adjust the V JITTER to eliminate the blur.
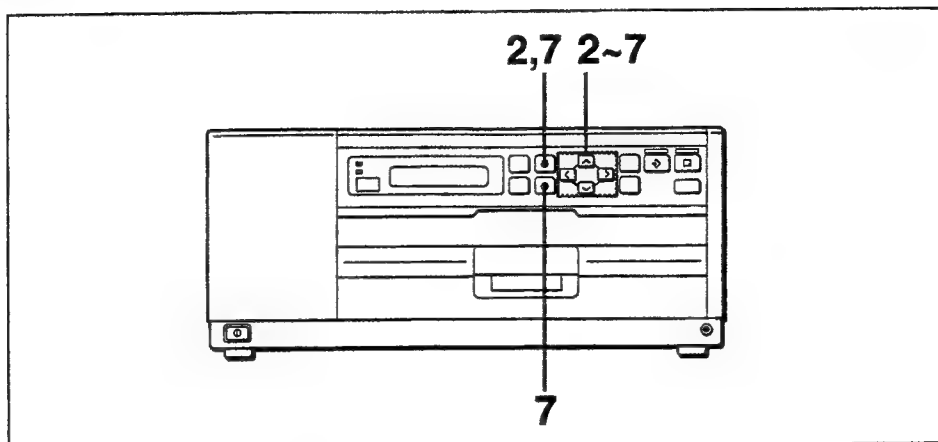
1 Display the stored image on the screen for adjustment.

2 Press the MENU button and select HI-SCAN SEL by pressing the ∧ or ∨ button.

Video monitor display

```
HI-SCAN          COLOR 100
  INPUT SEL        [>]
 HI-SCAN SEL       [>]
  COLOR ADJ        [>]
  PIX QUALITY      [>]
  CLEAR            [>]
  CAPTION          [>]
  SET UP           [>]
```

Move the cursor to HI-SCAN SEL by pressing the ∧ or ∨ button.

Printer window display

```
>HI-SCAN  SEL
                  [>]
```
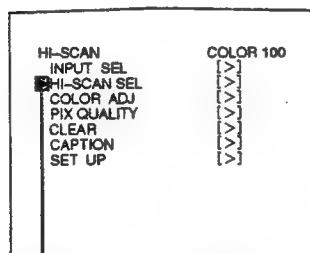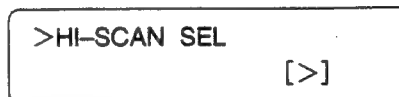
Press the ∧ or ∨ button until HI-SCAN SEL appears.

3 Press the > button.
The following screen appears.

HI-SCAN SEL sub menu
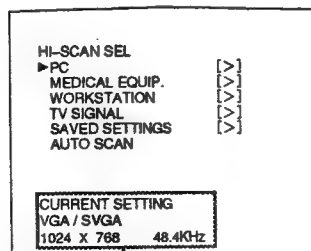
```
HI-SCAN SEL
►PC              [>]
 MEDICAL EQUIP.  [>]
 WORKSTATION     [>]
 TV SIGNAL       [>]
 SAVED SETTINGS  [>]
 AUTO SCAN

 CURRENT SETTING
 VGA / SVGA
 1024 X 768    48.4KHz
```

Currently selected signal

Part of HI-SCAN SEL sub menu.

```
>PC
                  [>]
```

4 Select SAVED SETTINGS by pressing the ∧ or ∨ button and press the >
button.
The specifications of the currently selected signal are displayed.

SAVED SETTINGS sub menu

```
►LOAD        : 1 2 3 4
 DOT FREQ    : 92.94MHz
 H FREQ      : 61.80KHz
 H SIZE      : 1152DOTS
 V SIZE      : 900 LINES
 H START     : 300 DOTS
 V START     : 31 LINES
 V JITTER    : 0
 ASPECT      : 1 2 3 4
 SAVE        : 1 2 3 4
               PUSH [EXEC]
```

Part of SAVED SETTINGS sub menu

```
>LOAD        PUSH [EXEC]
 ☀1 · 2 · 3 · 4
```

5 Select V JITTER by pressing the ∧ or ∨ button.

```
 LOAD        : 1 2 3 4
 DOT FREQ    : 92.94MHz
 H FREQ      : 61.80KHz
 H SIZE      : 1152DOTS
 V SIZE      : 900 LINES
 H START     : 300 DOTS
 V START     : 31 LINES
►V JITTER    : 0
 ASPECT      : 1 2 3 4
 SAVE        : 1 2 3 4
               PLEASE SAVE
```

Move the cursor to V JITTER by
pressing the ∧ or ∨ button.

```
>V JITTER
              0
```

Press the ∧ or ∨ button until V JITTER
appears.

6 Adjust the level by pressing the < or > button so that the vertical jitters are
eliminated from the image on the screen.

```
 H SIZE      : 1152DOTS
 V SIZE      : 900 LINES
 H START     : 300 DOTS
 V START     : 31 LINES
►V JITTER    : 10
 ASPECT      : 1 2 3 4
 SAVE        : 1 2 3 4
               PLEASE SAVE
```

```
>V JITTER
                    10
```

Change the value by pressing the < or > button.

7 To save the adjusted value, select the SAVE number by pressing the ∧ or ∨
button, and press the EXEC button.
The adjusted value is stored with the SAVE number and the printer display
returns to the regular screen.

To check the adjustment result
Store an image and print it to check the result. You cannot adjust the image once it
has been stored in memory. If the blur cannot be eliminated, perform the steps to
print a quickly-moving image without blur, and view the result. (See "Printing the
quickly-moving image without blur" on page 59.)

Printer Initial Setup

You can set up the following, using the SET UP sub menu.
- Changing the screen size (see page 64)
- Shifting the printout area (see page 68)
- Adjusting the aspect ratio (see page 71)
- Adjusting the phase distortion of a hi-scan input signal (see page 73)
- Matching the video monitor color to the printer color (see page 75)
- Selecting the black and white or three-dimensional printing mode (see page 81)
- Erasing the screen display (see page 79)
- Selecting the operation mode for automatic printing capabilities (see page 83)
- Setting the baud rate (see page 85)

Changing the Screen Size

When you print an image that is narrower or wider than the standard screen size, you can adjust the printout size by changing the horizontal and vertical screen sizes.
In case a black frame appears around the printout even after the printout area has been shifted ("Shifting the Printout Area" on page 68), narrow the printout size because the image is overscanned beyond the regular screen.
The setting remains as is until reset - even if you turn off the power.

Note

Once you change the printout size, this adjustment is applied to all types of printout of 625/50 signals, except for a printout with six multiple images. For making a printout of six multiple images and of Hi-scan signals, you have to make a separate adjustment for each connected device.
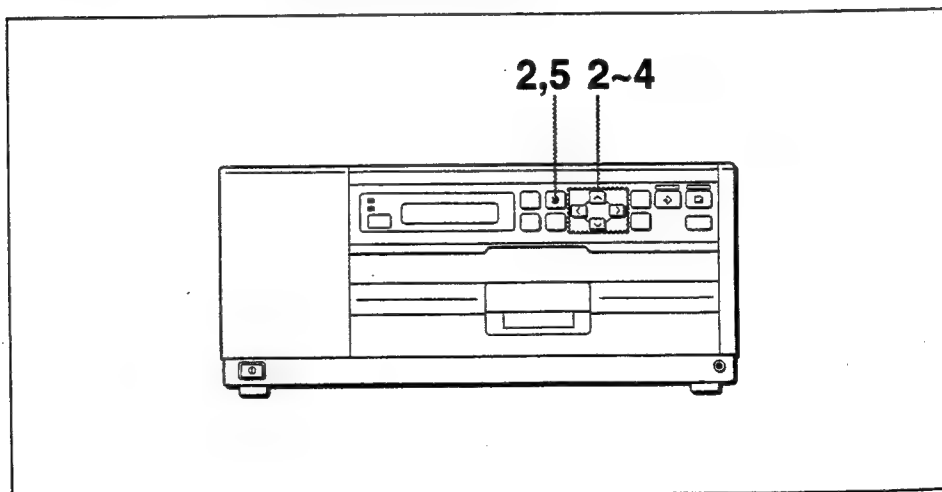
1 Display the image from the video source on the screen.

2 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625              COLOR 100
  INPUT SEL       [>]
  COLOR ADJ       [>]
  PIX QUALITY     [>]
  CLEAR           [>]
  CAPTION         [>]
▓SET UP          [>]
```

Move the cursor to SET UP by
pressing the ∧ or ∨ button.

Printer window display

```
>SET UP
                    [>]
```

Press the ∧ or ∨ button until SET UP
appears.

3 Press the > button.
The following screen appears.

SET UP sub menu

```
▶H SIZE      : 820 DOTS
  V SIZE     : 582 LINES
  H SHIFT    : 0 DOTS
  V SHIFT    : 0 LINES
  ASPECT ADJ : 0
  MONITOR    : THRU E TO E
  DISPLAY    : ON OFF
  REMOTE2    : M&P C M&S
  BAUD RATE  : 12 24 48 96
  PRINT MODE : COL BW 3D
```

Part of the SET UP sub menu

```
>H SIZE
              820   DOTS
```
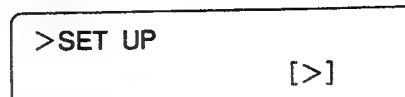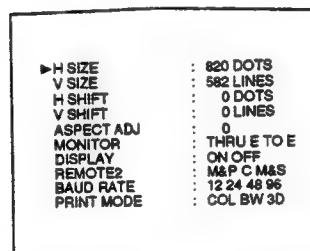
4 Adjust the screen size.
① Select the item to be adjusted by pressing the ∧ or ∨ button.
② Perform the adjustment by pressing the < or > button.
The size increases by pressing the > button, and decreases by pressing the <
button. Pressing the ∨ button together with the < and > buttons depressed
changes the values quickly. (This function is not available when you are
using the remote control unit.)

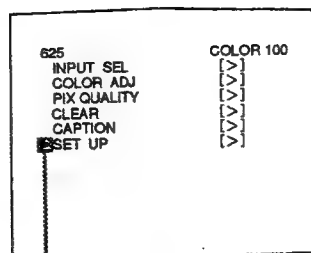| Adjustment Item	Items to be selected	Adjustment range 625/50 signals	Hi-scan signals
Horizontal screen size	H SIZE*	736 to 820 dots in steps of 2 dots (Six-reduced-images printouts: 600 to 640 dots in steps of 2 dots)	300 to 1280 dots in steps of 2 dots
Vertical screen size	V SIZE	500 to 582 lines in steps of 2 lines	200 to 1240 lines in steps of 1 or 2 lines**

* The horizontal screen size only changes when the range is changed by 4 dots, although the
range on the menu is adjustable to 2 dots by 2 dots.

** The adjustment unit differs depending on the type of hi-scan signal.

5 Press the MENU button.
The regular screen appears.

To check the adjustment result

Store a new image and print it to check whether the screen size is properly adjusted.

Note

To obtain good printouts of four- and six-reduced images from a hi-scan input signal, the maximum H SIZE is 1016 dots (four-reduced images) or 640 dots (six-reduced images). Also the maximum V SIZE is 512 lines (both four- and six-reduced images). If you exceed these limits, the value following the colon on the screen displayed in yellow.

Expanding and contracting the screen size without changing the aspect ratio

You can also adjust the screen size with RESIZE RATIO of the PIX QUALITY sub menu. When you specify the horizontal size in the percentage of the original size, the printer changes the vertical size accordingly as to hold the original aspect ratio.
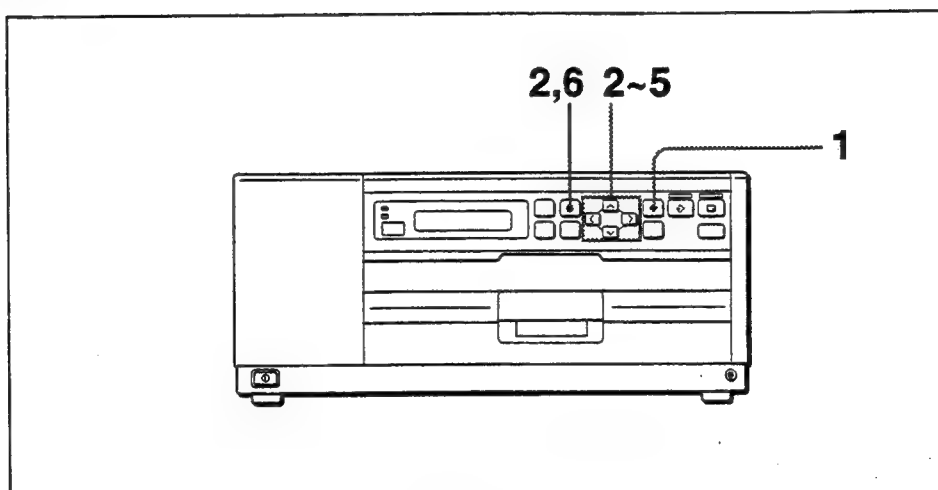
1 When the images from the video source are being displayed, press the SOURCE/MEMORY button.
The stored image appears on the screen.

2 Press the MENU button and select PIX QUALITY by pressing the ∧ or ∨ button.

Video monitor screen

```
625                COLOR 100
  INPUT SEL         [>]
  COLOR ADJ         [>]
▊PIX QUALITY        [>]
  CLEAR             [>]
  CAPTION           [>]
  SET UP            [>]
```

Move the cursor to PIX QUALITY by pressing the ∧ or ∨ button.

Printer window display

```
>PIX QUALITY
                    [>]
```
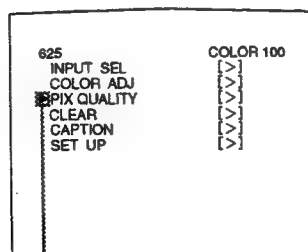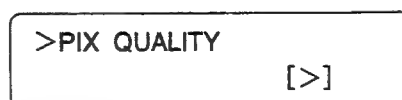
Press the ∧ or ∨ button until PIX QUALITY appears.

3 Press the > button.
The following screen appears.

PIX QUALITY sub menu

```
PIX QUALITY
►SHARPNESS      : L M H
 RESIZE RATIO   : 100%
 MOTION CORRECT : ON OFF
```
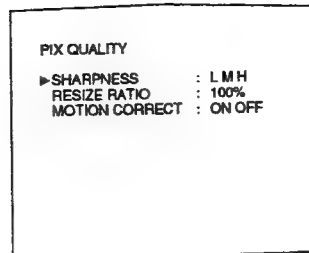
Part of the PIX QUALITY sub menu

```
>SHARPNESS
   ☀L · M · H
```
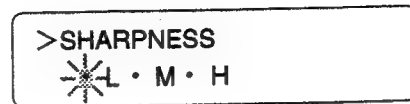
4 Select RESIZE RATIO by pressing the ∧ or ∨ button.

```
PIX QUALITY
 SHARPNESS      : L M H
█RESIZE RATIO   : 100%
 MOTION CORRECT : ON OFF
```
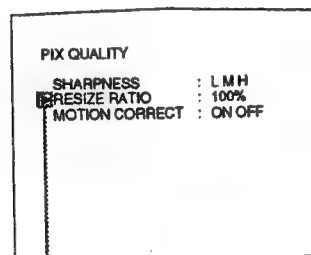
Move the cursor to RESIZE RATIO
by pressing the ∧ or ∨ button.

```
>RESIZE  RATIO
        100%
```
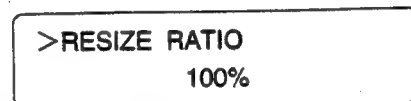
Press the ∧ or ∨ button until RESIZE
RATIO appears.

5 Specify the desired horizontal screen size in percentage of the original size by pressing the < or > button.
You can adjust the percentage between 100% and 80% in steps of 1%. The percentage increases by pressing the > button, and decreases by pressing the < button. The vertical size is automatically changed according to the original aspect ratio.

```
PIX QUALITY
 SHARPNESS      : L M H
►RESIZE RATIO   : 80%
 MOTION CORRECT : ON OFF
```

```
>RESIZE  RATIO
       80%
```

The figure changes.

6 Press the MENU button.
The regular screen appears.

To check the adjustment result
Store a new image and print it to check whether the printout area is properly adjusted.

Note
When adjusting the RESIZE RATIO and making a printout of reduced images, the aspect ratio may be changed depending on the type of input signal.

Shifting the Printout Area

The black line may be printed on the printout although it does not appear on the video monitor. The portion where no video signal exists is printed in black. This may occur when you make printouts after you connect a different video source or play back different video software.

This section explains how to adjust the printout area by moving the screen horizontally and vertically using the following example, eliminating the black line on the right of a printout.
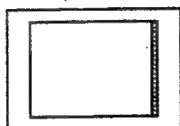
A black line appears on the right

Note

Once the printout area is shifted, this adjustment is applied to all types of printout of 625/50 signals, except for a printout with six multiple images. For making a printout of six multiple images and of Hi-scan signals, adjust separately for each connected device.
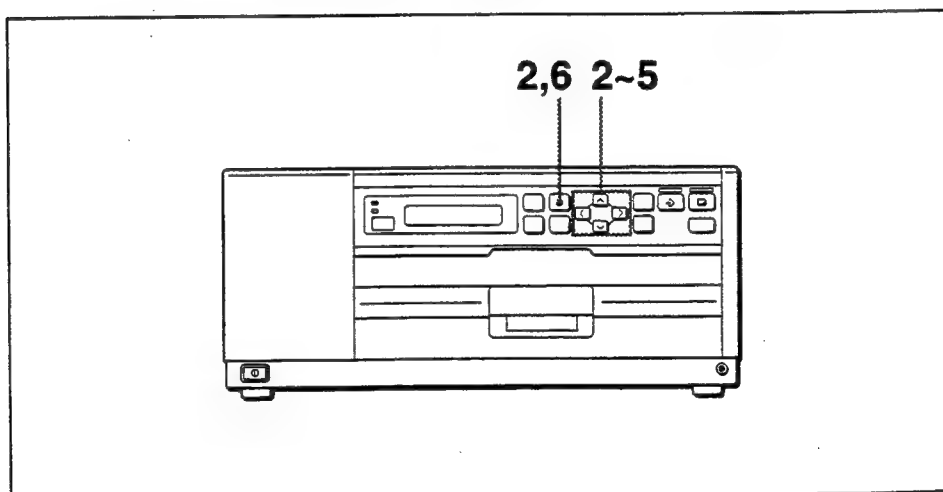
1 Display the image from the video source on the screen.

2 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625                    COLOR 100
   INPUT SEL              [>]
   COLOR ADJ             [>]
   PIX QUALITY           [>]
   CLEAR                 [>]
   CAPTION               [>]
  ▓SET UP                [>]
```

Move the cursor to SET UP by
pressing the ∧ or ∨ button.

Printer window display

```
>SET UP
                    [>]
```

Press the ∧ or ∨ button until SET UP
appears.

3 Press the > button.
The following screen appears.

SET UP sub menu

```
►H SIZE        :  820 DOTS
 V SIZE        :  582 LINES
 H SHIFT       :    0 DOTS
 V SHIFT       :    0 LINES
 ASPECT ADJ    :    0
 MONITOR       :  THRU E TO E
 DISPLAY       :  ON OFF
 REMOTE2       :  M&P C M&S
 BAUD RATE     :  12 24 48 96
 PRINT MODE    :  COL BW 3D
```

Part of the SET UP sub menu

```
>H SIZE
              820  DOTS
```
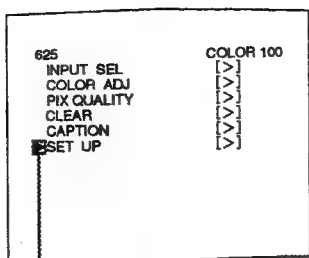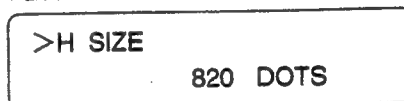
4 Select H SHIFT by pressing the ∧ or ∨ button.
(When the black line is at the top or bottom, select V SHIFT.)
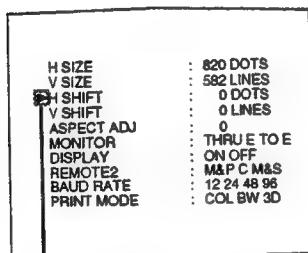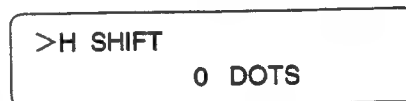
```
 H SIZE        :  820 DOTS
 V SIZE        :  582 LINES
▓H SHIFT       :    0 DOTS
 V SHIFT       :    0 LINES
 ASPECT ADJ    :    0
 MONITOR       :  THRU E TO E
 DISPLAY       :  ON OFF
 REMOTE2       :  M&P C M&S
 BAUD RATE     :  12 24 48 96
 PRINT MODE    :  COL BW 3D
```

Move the cursor to the adjustment
item by pressing the ∧ or ∨ button.

```
>H SHIFT
               0  DOTS
```

Press the ∧ or ∨ button until the adjustment
item appears.

5 Press the > button until the black line disappears.
R is displayed on the screen.
By pressing the < and > buttons together, you can quickly resets the screen area to the standard position. (This function is not available when you are using the remote control unit.)

Item selected in step 4	The position where the black line appears	Button to be used	Operation (with 625/50 input signals*)
H SHIFT (horizontal direction)	On the right	> button	Shifting the image to the right by up to 40 dots in steps of 2 dots. When the image is shifted to the right of the standard position, R (right) appears.
	On the left	< button	Shifting the image to the left by up to 40 dots in steps of 2 dots. When the image is shifted to the left of the standard position, L (left) appears.
V SHIFT (vertical direction)	At the top	> button	Shifting the image up by up to 12 lines in steps of 2 lines. When the image is shifted up the standard position, U (up) appears.
	At the bottom	< button	Shifting the image down by up to 12 lines in steps of 2 lines. When the image is shifted down the standard position, D (down) appears.

* For hi-scan input signals, the adjustment unit and range varies depending on the input signal. However, adjustment operations are the same.

6 Press the MENU button.
The regular screen appears.

To check the adjustment result

Any black line is also stored in memory with the previous image. Thus, store a new image to the memory and print it to check whether the black line disappears.

Note

When a black line still remains even after adjusting H SHIFT or V SHIFT, change the printout size. (see "Changing the Screen Size" on page 64.)

Adjusting the Aspect Ratio

When the printout seems to be stretched vertically or horizontally, you can correct the aspect ratio.

2,6 2~5
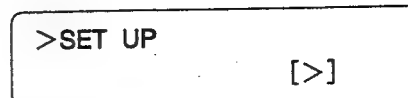
1 Display the image from the video source on the screen.

2 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.
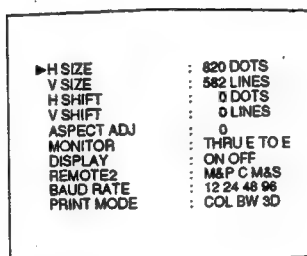
Video monitor screen

```
625                    COLOR 100
  INPUT SEL           [>]
  COLOR ADJ           [>]
  PIX QUALITY         [>]
  CLEAR               [>]
  CAPTION             [>]
▶SET UP               [>]
```

Move the cursor to SET UP by pressing the ∧ or ∨ button.

Printer window display

```
>SET UP
                        [>]
```

Press the ∧ or ∨ button until SET UP appears.

3 Press the > button.
The following screen appears.

SET UP sub menu

```
▶H SIZE        : 820 DOTS
  V SIZE       : 582 LINES
  H SHIFT      :   0 DOTS
  V SHIFT      :   0 LINES
  ASPECT ADJ   :   0
  MONITOR      : THRU E TO E
  DISPLAY      : ON OFF
  REMOTE2      : M&P C M&S
  BAUD RATE    : 12 24 48 96
  PRINT MODE   : COL BW 3D
```

Part of the SET UP sub menu

```
>H SIZE
              820  DOTS
```
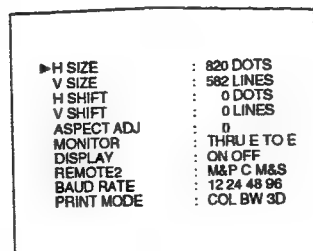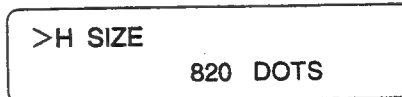
4 Select ASPECT ADJ by pressing the ∧ or ∨ button.

H SIZE	:	820 DOTS
V SIZE	:	582 LINES
H SHIFT	:	0 DOTS
V SHIFT	:	0 LINES
ASPECT ADJ	:	0
MONITOR	:	THRU E TO E
DISPLAY	:	ON OFF
REMOTE2	:	M&P C M&S
BAUD RATE	:	12 24 48 96
PRINT MODE	:	COL BW 3D

Move the cursor to ASPECT ADJ by pressing the ∧ or ∨ button.

```
>ASPECT  ADJ
        0
```

Press the ∧ or ∨ button until ASPECT ADJ appears.

5 Adjust the aspect ratio by pressing the < or > button.
You can change the aspect ratio from -30 to +40 in steps of 1. The adjusting operations differ depending on the type of printouts.

For full-size, four-image and 16-image printouts

Before adjusting

Press the > button to increase the aspect ratio.

After adjusting

Stretched vertically.

Press the < button to decrease the aspect ratio.

Stretched horizontally

For two-image and eight-image printouts

Before adjusting

Press the > button to increase the aspect ratio.

After adjusting

Stretched vertically.

Press the < button to decrease the aspect ratio.
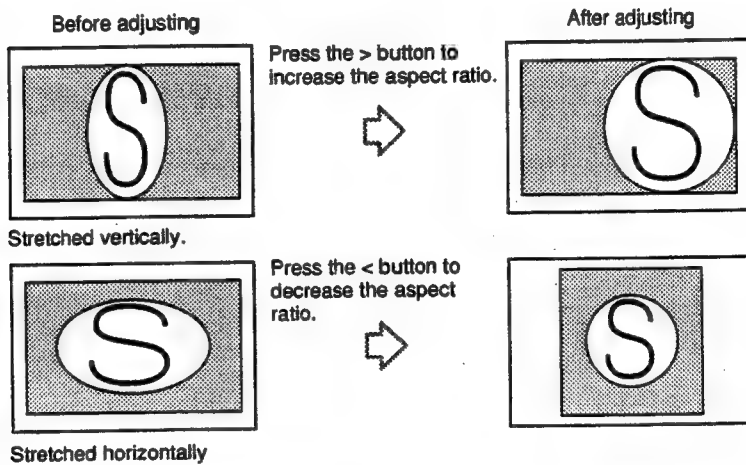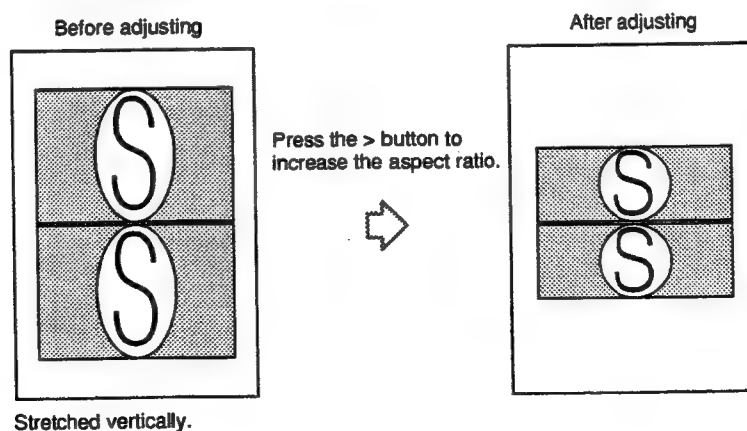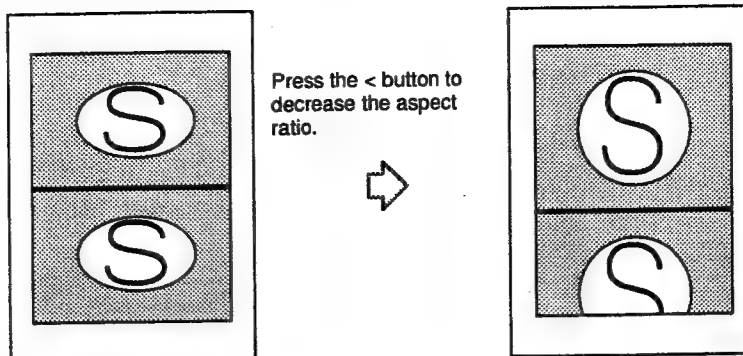
Stretched horizontally

Note

The adjustments for the full-size, four-image and 16-image printouts are not effective for two-image and eight-image printouts and vice versa.

6 Press the MENU button.
The regular screen appears.

To check the adjustment result

The memory images are stored with the previous aspect ratio. Thus, store a new image to the memory and print it to check the aspect ratio.

Adjusting the Phase Distortion of a Hi-Scan Signal

When the printed pictures of a hi-scan input signal from a computer or medical equipment are distorted or not clear, there is a phase difference between the dot clock frequency of the input signal and the sampling frequency. This phase distortion can be adjusted from the PHASE sub menu, appearing only when HI (hi-scan signal) is selected from the INPUT SEL sub menu.
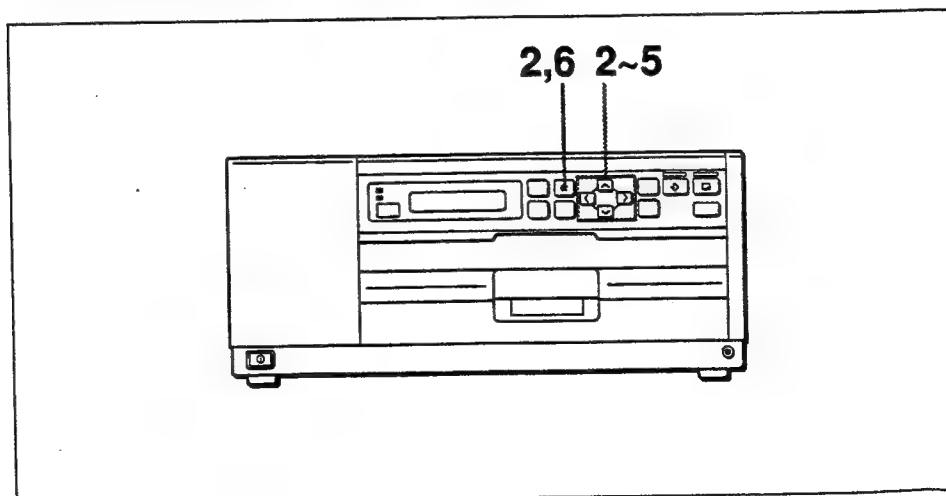
1 Display the input images for adjustment on the monitor screen.

2 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
HI-SCAN            COLOR 100
   INPUT  SEL         [>]
   HI-SCAN  SEL       [>]
   COLOR  ADJ         [>]
   PIX QUALITY        [>]
   CLEAR              [>]
   CAPTION            [>]
▶SET UP              [>]
```

Move the cursor to SET UP by
pressing the ∧ or ∨ button.

Printer window display

```
>SET  UP
                    [>]
```

Press the ∧ or ∨ button until SET UP
appears.

3 Press the > button.
The following screen appears.

SET UP sub menu

```
▶H SIZE         :  816 DOTS
  V SIZE        :  486 LINES
  H SHIFT       :   0 DOTS
  V SHIFT       :   0 LINES
  ASPECT ADJ    :   0
  PHASE         :  1 2 3 4
  MONITOR       :  THRU E TO E
  DISPLAY       :  ON OFF
  REMOTE2       :  M&P C M&S
  BAUD RATE     :  12 24 48 96
  PRINT MODE    :  COL BW 3D
```

Part of the SET UP sub menu

```
>H  SIZE
              816  DOTS
```

4 Select PHASE by pressing the ∧ or ∨ button.

```
  H SIZE        :  816 DOTS
  V SIZE        :  486 LINES
  H SHIFT       :   0 DOTS
  V SHIFT       :   0 LINES
  ASPECT ADJ    :   0
▶PHASE          :  1234
  MONITOR       :  THRU E TO E
  DISPLAY       :  ON OFF
  REMOTE2       :  M&P C M&S
  BAUD RATE     :  12 24 48 96
  PRINT MODE    :  COL BW 3D
```

Move the cursor to PHASE by
pressing the ∧ or ∨ button.

```
>PHASE
  ─※─1 · 2 · 3 · 4
```

Press the ∧ or ∨ button until PHASE appears.

5 Select one of the 1, 2, 3 and 4 for the phase by pressing the < or > button so
that the clear picture is obtained.

```
  H SIZE        :  816 DOTS
  V SIZE        :  486 LINES
  H SHIFT       :   0 DOTS
  V SHIFT       :   0 LINES
  ASPECT ADJ    :   0
▶PHASE          :  1234
  MONITOR       :  THRU E TO E
  DISPLAY       :  ON OFF
```

```
>PHASE
   · 1※2 · 3 · 4
```

Select the appropriate number.

6 Press the MENU button.
The regular screen appears.

To check the adjustment result
The memory images are stored with the previous phase. Thus, store a new image to the memory and print it to check the adjustment result.

Matching the Monitor Color to the Printer Color

When the color of a printout differs from that on the monitor, adjust the color of the monitor itself first, then store an image and print it. Afterward, adjust the printer's output signal to the monitor so that the color of the printout is identical to that on the monitor.

Printer output signals

The printer outputs one of two kinds of video signals according to the MONITOR setting of the SET UP sub menu.
- E TO E: Signals are output to the monitor after being processed in the printer's circuits. (Factory-set setting)
- THRU (through): Signals are output to the monitor as is.

Notes
- At the factory, the printer is adjusted such that the images for both signals appear identical. If they appear different, the printer's control settings may not be set correctly. Check the settings of the MONITOR RGB, COLOR and GAIN controls. They may have been adjusted for another input signal. Adjust them to suit the new input signal. (See "Compensating for the color and level of input signals" on page 58.)
- When a hi-scan signal is input with the MONITOR setting at E TO E, the playback and stored image on the monitor may be blurred. To view the picture without blur, set MONITOR to THRU.

Adjusting the monitor color

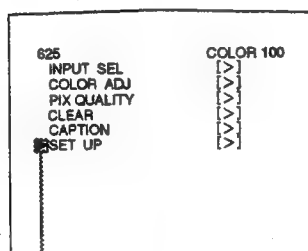Even if the printer is correctly adjusted, the monitor's color settings may not be correct. If the color on the monitor is adjusted using the controls on the printer, it is difficult to check whether the monitor is itself correctly adjusted. Thus, adjust the monitor color with the monitor controls, using the through signal that is output directly to the monitor without being processed in the printer's circuits.

2,6 2~5
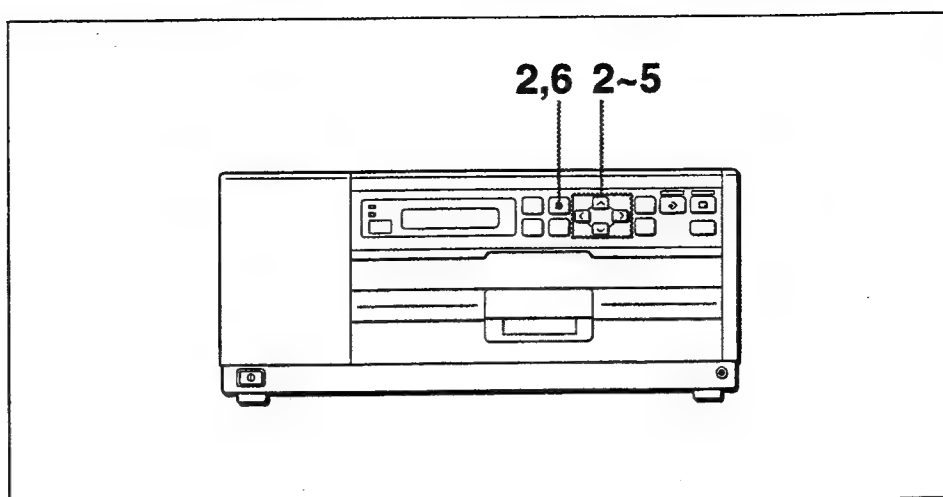
1 Display the input image for adjustment on the monitor screen.

2 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625                    COLOR 100
   INPUT SEL      [>]
   COLOR ADJ      [>]
   PIX QUALITY    [>]
   CLEAR          [>]
   CAPTION        [>]
►SET UP           [>]
```

Move the cursor to SET UP by
pressing the ∧ or ∨ button.

Printer window display

```
>SET UP
                    [>]
```

Press the ∧ or ∨ button until SET UP
appears.

3 Press the > button.
The following screen appears.

SET UP sub menu

```
►H SIZE         :  820 DOTS
 V SIZE         :  582 LINES
 H SHIFT        :    0 DOTS
 V SHIFT        :    0 LINES
 ASPECT ADJ     :    0
 MONITOR        :  THRU E TO E
 DISPLAY        :  ON OFF
 REMOTE2        :  M&P C M&S
 BAUD RATE      :  12 24 48 96
 PRINT MODE     :  COL BW 3D
```

Part of the SET UP sub menu

```
>H SIZE
              820  DOTS
```
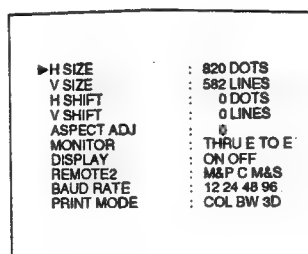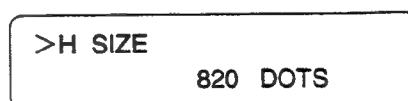
4 Select MONITOR by pressing the ∧ or ∨ button.

```
H SIZE        :  820 DOTS
V SIZE        :  582 LINES
H SHIFT       :    0 DOTS
V SHIFT       :    0 LINES
ASPECT ADJ    :    0
▶MONITOR       :  THRU E TO E
DISPLAY       :  ON OFF
REMOTE2       :  M&P C M&S
BAUD RATE     :  12 24 48 96
PRINT MODE    :  COL BW 3D
```

Move the cursor to MONITOR by
pressing the ∧ or ∨ button.

>MONITOR
 · THRU✕E TO E

Press the ∧ or ∨ button until MONITOR
appears.

5 Select THRU by pressing the < or > button.
The signal is output directly to the monitor.

```
H SIZE        :  820 DOTS
V SIZE        :  582 LINES
H SHIFT       :    0 DOTS
V SHIFT       :    0 LINES
ASPECT ADJ    :    0
▶MONITOR       :  THRU E TO E
DISPLAY       :  ON OFF
```
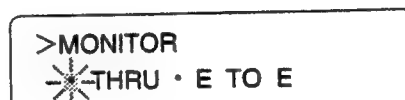
>MONITOR
 ✕THRU · E TO E

Move the blinking cursor to THRU.

6 Press the MENU button.
The regular screen appears.

7 Adjust the color of the monitor by using the monitor controls.

Adjusting the color of the printer's output signal

After adjusting the color of the monitor, adjust the printer's output signal so that
the color on the monitor is identical to that of a printout, using the output signal
after being processed in the printer's circuits.
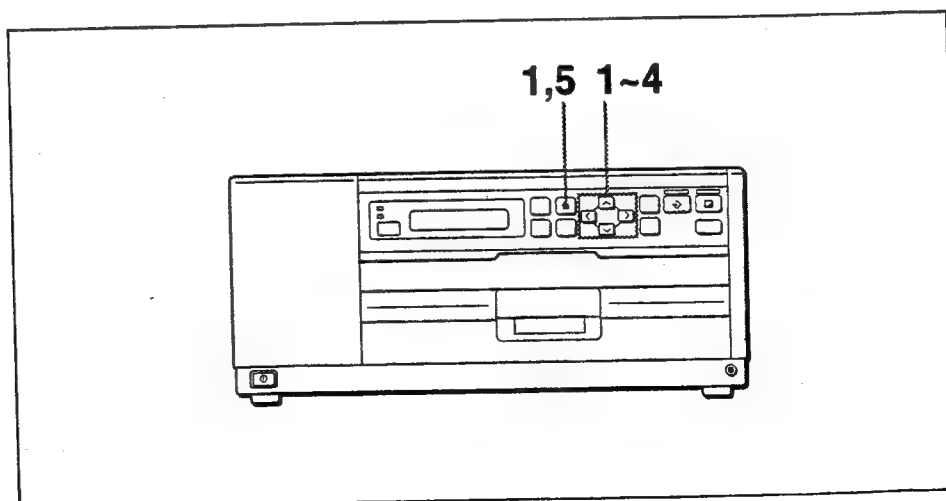
1 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625                  COLOR 100
  INPUT SEL          [>]
  COLOR ADJ          [>]
  PIX QUALITY        [>]
  CLEAR              [>]
  CAPTION            [>]
▓SET UP              [>]
```

Move the cursor to SET UP by
pressing the ∧ or ∨ button.

Printer window display

```
>SET  UP

            [>]
```

Press the ∧ or ∨ button until SET

2 Press the > button.
The following screen appears.

SET UP sub menu

```
►H SIZE       :  820 DOTS
 V SIZE       :  582 LINES
 H SHIFT      :    0 DOTS
 V SHIFT      :    0 LINES
 ASPECT ADJ   :    0
 MONITOR      :  THRU E TO E
 DISPLAY      :  ON OFF
 REMOTE2      :  M&P C M&S
 BAUD RATE    :  12 24 48 96
 PRINT MODE   :  COL BW 3D
```
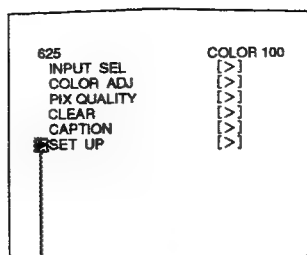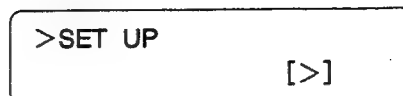
Part of the SET UP sub menu

```
>H  SIZE

       820  DOTS
```

3 Select MONITOR by pressing the ∧ or ∨ button.

```
 H SIZE       :  820 DOTS
 V SIZE       :  582 LINES
 H SHIFT      :    0 DOTS
 V SHIFT      :    0 LINES
 ASPECT ADJ   :    0
▓MONITOR      :  THRU E TO E
 DISPLAY      :  ON OFF
 REMOTE2      :  M&P C M&S
 BAUD RATE    :  12 24 48 96
 PRINT MODE   :  COL BW 3D
```

Move the cursor to MONITOR by
pressing the ∧ or ∨ button.

```
>MONITOR
 · THRU  E TO E
```
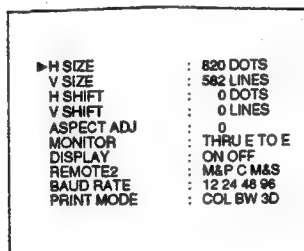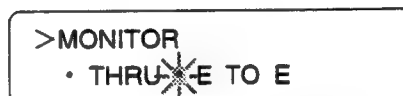
Press the ∧ or ∨ button until MONITOR appears.

4 Select E TO E by pressing the < or > button.
The signal is output to the monitor after being processed in the printer's
circuits.

```
 H SIZE       :  820 DOTS
 V SIZE       :  582 LINES
 H SHIFT      :    0 DOTS
 V SHIFT      :    0 LINES
 ASPECT ADJ   :    0
►MONITOR      :  THRU E TO E
 DISPLAY      :  ON OFF
```
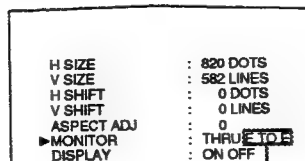
Shift E TO E to green by pressing
the ∧ or ∨ button.

```
>MONITOR
 · THRU  E TO E
```
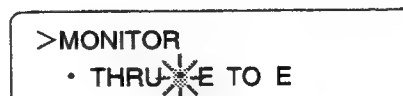
Move the blinking cursor to E TO E.

5 Press the MENU button.
The regular screen appears.

6 Store a new image (for color adjustment) and print it. (See page 16.)

7 Adjust the MONITOR RGB controls on the rear of the printer to match the monitor color to the printout color.

Match the color.

Printout

Monitor
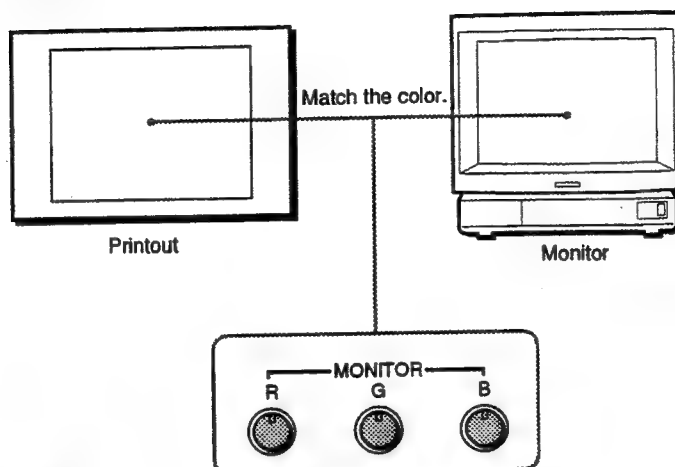
MONITOR
R   G   B

Note

The MONITOR RGB controls are used to adjust the color of the output signal from the printer when the monitor color is unsatisfactory. This adjustment does not affect the printout. To adjust the color of the printouts, see "Adjusting the Printout Quality" on page 52 .

Erasing the Screen Display

You can erase a screen display with the menu, when, for example, it is hard to see the image that is hidden behind the screen display (C, QTY, A, and others). The printer operation is identical, regardless of whether screen display are displayed on the screen. You can always see same messages as the screen display on the printer window display.
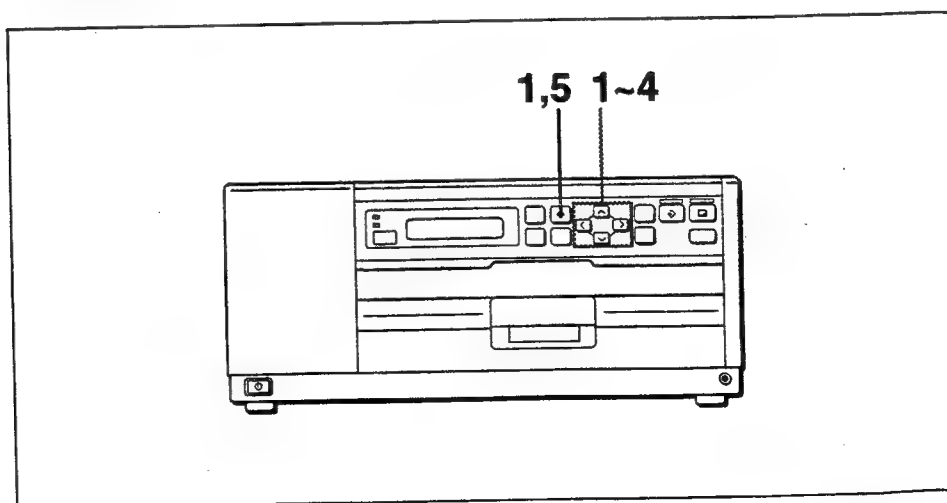
1,5 1~4

1 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625                COLOR 100
   INPUT SEL       [>]
   COLOR ADJ       [>]
   PIX QUALITY     [>]
   CLEAR           [>]
   CAPTION         [>]
  SET UP           [>]
```
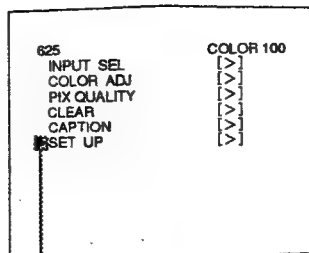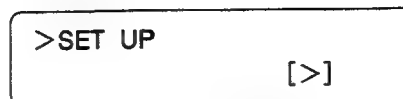
Move the cursor to SET UP by
pressing the ∧ or ∨ button.

Printer window display

```
>SET UP
                [>]
```

Press the ∧ or ∨ button until SET

2 Press the > button.
The following screen appears.

SET UP sub menu

```
►H SIZE        :  820 DOTS
 V SIZE        :  582 LINES
 H SHIFT       :    0 DOTS
 V SHIFT       :    0 LINES
 ASPECT ADJ    :    0
 MONITOR       :  THRU E TO E
 DISPLAY       :  ON OFF
 REMOTE2       :  M&P C M&S
 BAUD RATE     :  12 24 48 96
 PRINT MODE    :  COL BW 3D
```

Part of SET UP sub menu

```
>H SIZE
          820  DOTS
```

3 Select DISPLAY by pressing the ∧ or ∨ button.

```
 H SIZE        :  820 DOTS
 V SIZE        :  582 LINES
 H SHIFT       :    0 DOTS
 V SHIFT       :    0 LINES
 ASPECT ADJ    :    0
 MONITOR       :  THRU E TO E
 DISPLAY       :  ON OFF
 REMOTE2       :  M&P C M&S
```
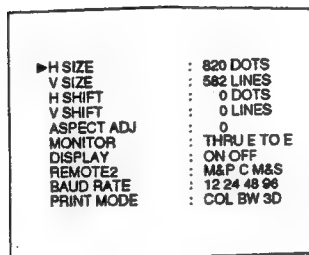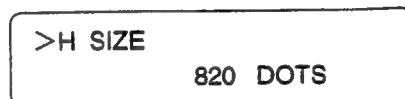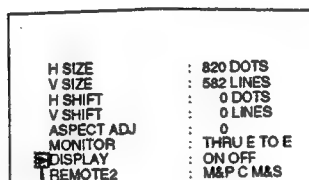
Move the cursor to DISPLAY by
pressing the ∧ or ∨ button.

```
>DISPLAY
  ON · OFF
```
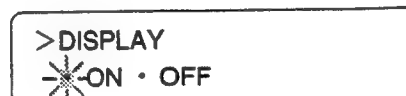
Press the ∧ or ∨ button until DISPLAY
appears.

4 Select OFF by pressing the < or > button.

```
 H SIZE        :  820 DOTS
 V SIZE        :  582 LINES
 H SHIFT       :    0 DOTS
 V SHIFT       :    0 LINES
 ASPECT ADJ    :    0
 MONITOR       :  THRU E TO E
►DISPLAY       :  ON OFF
 REMOTE2       :  M&P C M&S
```
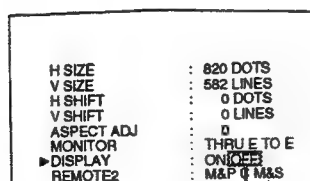
Shift OFF to green by pressing the
∧ or ∨ button.

```
>DISPLAY
  · ON  OFF
```
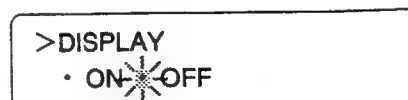
Move the blinking cursor to OFF.

5 Press the MENU button.
The regular screen appears.

To display screen messages

In step 4, select ON.

Select the Black and White or Three-Dimensional Printing Mode

You can select black and white or three-dimensional printing from the PRINT MODE of the SET UP sub menu. When printing the black and white signals of either 625/50 signals or hi-scan medical signals, select BW (black and white printing). You can also select 3D (three-dimensional printing) when the images are separated into the R (red) and B (blue) planes with a time-lag and overlaid again so that the only shifted portions are printed in color. The 3D printing mode is useful when printing medical images, for example, printing the blood-flow images three-dimensionally.

1,5 1~4

1 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625                 COLOR 100
   INPUT SEL          [>]
   COLOR ADJ          [>]
   PIX QUALITY        [>]
   CLEAR              [>]
   CAPTION            [>]
 ▮SET UP              [>]
```

Move the cursor to SET UP by pressing the ∧ or ∨ button.

Printer window display

```
>SET UP
                  [>]
```

Press the ∧ or ∨ button until SET UP appears.

2 Press the > button.
The following screen appears.

SET UP sub menu

```
►H SIZE      : 820 DOTS
 V SIZE      : 582 LINES
 H SHIFT     :   0 DOTS
 V SHIFT     :   0 LINES
 ASPECT ADJ  :   0
 MONITOR     : THRU E TO E
 DISPLAY     : ON OFF
 REMOTE2     : M&P C M&S
 BAUD RATE   : 12 24 48 96
 PRINT MODE  : COL BW 3D
```
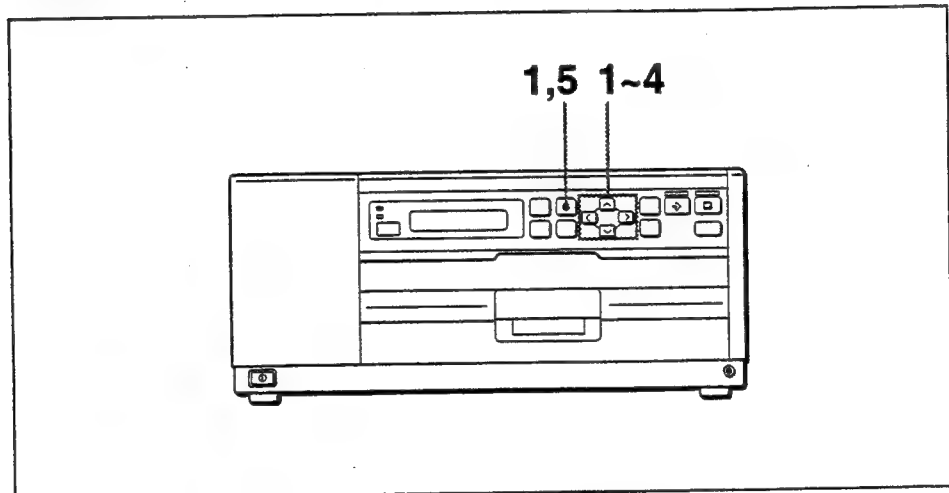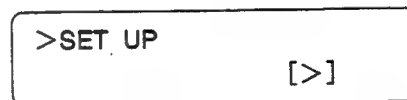
Part of SET UP sub menu

```
>H SIZE
         820  DOTS
```

3 Select PRINT MODE by pressing the ∧ or ∨ button.

```
 ASPECT ADJ  :   0
 MONITOR     : THRU E TO E
 DISPLAY     : ON OFF
 REMOTE2     : M&P C M&S
 BAUD RATE   : 12 24 48 96
►PRINT MODE  : COL BW 3D
```

Move the cursor to PRINT MODE
by pressing the ∧ or ∨ button.

```
>PRINT MODE
 ─※─COL • BW • 3D
```

Press the ∧ or ∨ button until PRINT MODE
appears.

4 Select the desired print mode by pressing the < or > button.

Items to be selected	Print mode
COL	Color printing mode
BW	Black and white printing mode
3D	Three-dimensional printing mode

```
 ASPECT ADJ  :   0
 MONITOR     : THRU E TO E
 DISPLAY     : ON OFF
 REMOTE2     : M&P C M&S
 BAUD RATE   : 12 24 48 96
►PRINT MODE  : COL BW 3D
```

Shift the desired print mode to
green by pressing the ∧ or ∨ button.

```
>PRINT MODE
  • COL※BW • 3D
```

Move the blinking cursor to the desired print
mode.

5 Press the MENU button.
The regular screen appears.

You can control the printer with either of the following two options connected to the REMOTE 2 connector on the rear panel.
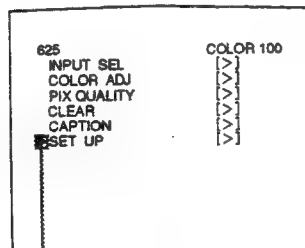• FS-20 foot switch (not supplied)
• Pulse signals
The printer operates in one of the following three modes, M & P, C and M & S, when receiving a pulse signal, according to the printer setting. You set the operation mode from REMOTE 2 of the SET UP sub menu.
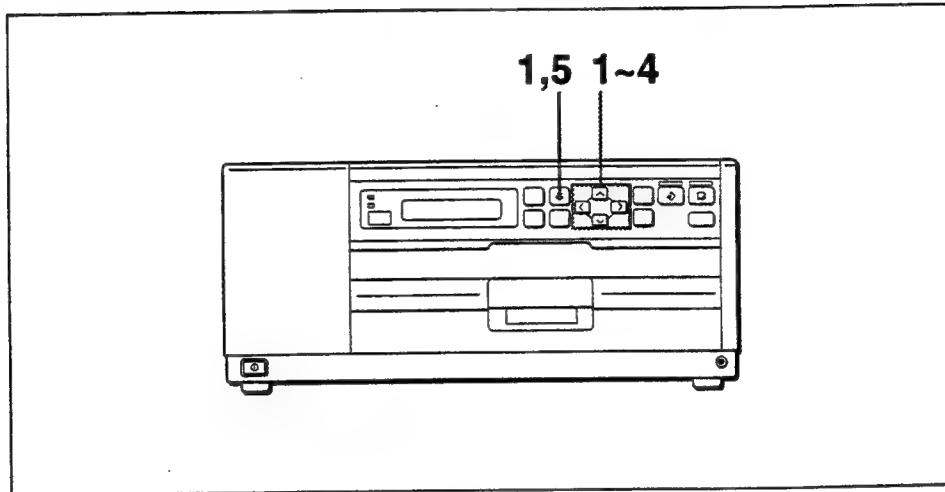
1,5 1~4

1 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625                    COLOR 100
  INPUT SEL               [>]
  COLOR ADJ               [>]
  PIX QUALITY             [>]
  CLEAR                   [>]
  CAPTION                 [>]
▶SET UP                   [>]
```

Move the cursor to SET UP by
pressing the ∧ or ∨ button.

Printer window display

```
>SET  UP
                  [>]
```

Press the ∧ or ∨ button until SET

2 Press the > button.
The following screen appears.

SET UP sub menu

```
▶H SIZE       : 820 DOTS
  V SIZE      : 582 LINES
  H SHIFT     :    0 DOTS
  V SHIFT     :    0 LINES
  ASPECT ADJ  :    0
  MONITOR     : THRU E TO E
  DISPLAY     : ON OFF
  REMOTE2     : M&P C M&S
  BAUD RATE   : 12 24 48 96
  PRINT MODE  : COL BW 3D
```

Part of SET UP sub menu

```
>H  SIZE
           820   DOTS
```
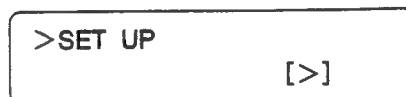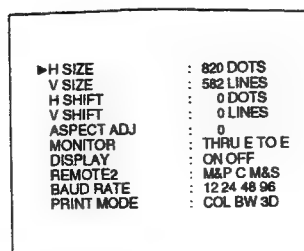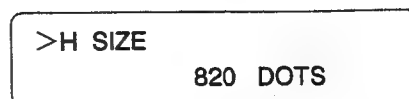
Continued to next page→

3 Select REMOTE2 by pressing the ∧ or ∨ button.

```
ASPECT ADJ   :   0
MONITOR      :   THRU E TO E
DISPLAY      :   ON OFF
REMOTE2      :   M&P C M&S
BAUD RATE    :   12 24 48 96
PRINT MODE   :   COL BW 3D
```

Move the cursor to REMOTE2 by
pressing the ∧ or ∨ button.

```
>REMOTE2
 —※—M&P · C · M&S
```

Press the ∧ or ∨ button until REMOTE2
appears.

4 Select the desired operation mode by pressing the < or > button.

Items to be selected	Operation mode	Operation
M & P	Memory and Print	Storing an image in a memory page and printing it immediately. When another pulse signal is received (or you press the foot switch), the printer stores a new image replacing the previously stored one in the same memory page and print it.
C	Cyclic memory	Storing images to memory pages cyclically whenever the printer receives a pulse signal. The printer continues to store an image, replacing the previously stored one in the relevant memory page.
M & S	Memory and Stop	Storing images to memory pages cyclically whenever the printer receives a pulse signal. The printer continues to store an image, replacing the previously stored one in the relevant memory page.

```
ASPECT ADJ   :   0
MONITOR      :   THRU E TO E
DISPLAY      :   ON OFF
►REMOTE2     :   M&P C M&S
BAUD RATE    :   12 24 48 96
PRINT MODE   :   COL BW 3D
```

Shift the desired operation mode to
green by pressing the ∧ or ∨ button.

```
>REMOTE2
 · M&P※C · M&S
```

Move the blinking cursor to the desired
operation mode.

5 Press the MENU button.
The regular screen appears.

When STOP STOP STOP appears

Press the STOP button. (Buttons other than the STOP button are not active.) The
printer resets to the normal printing mode.

Note

When you select C or M & S, the printer only stores images to memory. To print those images, select
a memory page and print it.

When controlling the printer with a computer connected to the printer's RS-232C connector, select the appropriate baud rate. For more details, contact your Sony dealer or service facilities.

1,5 1~4

1 Press the MENU button and select SET UP by pressing the ∧ or ∨ button.

Video monitor screen

```
625                 COLOR 100
  INPUT SEL         [ > ]
  COLOR ADJ         [ > ]
  PIX QUALITY       [ > ]
  CLEAR             [ > ]
  CAPTION           [ > ]
▶ SET UP            [ > ]
```
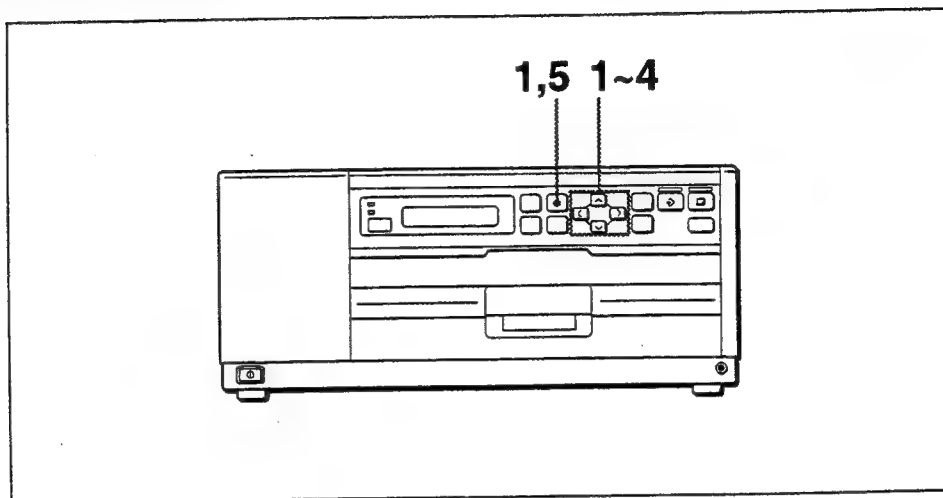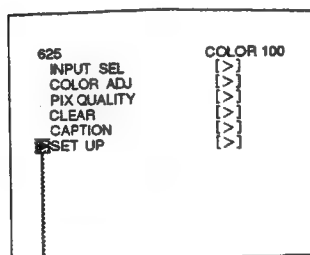
Move the cursor to SET UP by pressing the ∧ or ∨ button.

Printer window display

```
>SET  UP
                    [ > ]
```

Press the ∧ or ∨ button until SET

2 Press the > button.
The following screen appears.

SET UP sub menu

```
▶ H SIZE      :  820 DOTS
  V SIZE      :  582 LINES
  H SHIFT     :    0 DOTS
  V SHIFT     :    0 LINES
  ASPECT ADJ  :    0
  MONITOR     :  THRU E TO E
  DISPLAY     :  ON OFF
  REMOTE2     :  M&P C M&S
  BAUD RATE   :  12 24 48 96
  PRINT MODE  :  COL BW 3D
```

Part of SET UP sub menu

```
>H  SIZE
              820   DOTS
```
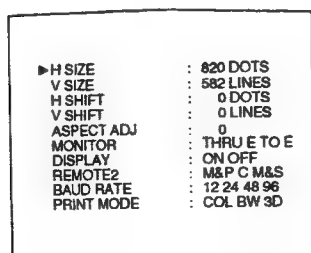
Continued to next page→

3 Select BAUD RATE by pressing the ∧ or ∨ button.

```
ASPECT ADJ    :  0
MONITOR       :  THRU E TO E
DISPLAY       :  ON OFF
REMOTE2       :  M&P C M&S
BAUD RATE     :  12 24 48 96
PRINT MODE    :  COL BW 3D
```

Move the cursor to BAUD RATE
by pressing the ∧ or ∨ button.

```
>BAUD RATE
-*-12 · 24 · 48 · 96
```

Press the ∧ or ∨ button until BAUD RATE
appears.

4 Select the desired baud rate by pressing the < or > button.

Items to be selected	Baud rate
12	1200 bps
24	2400 bps
48	4800 bps
96	9600 bps

```
ASPECT ADJ    :  0
MONITOR       :  THRU E TO E
DISPLAY       :  ON OFF
REMOTE2       :  M&P C M&S
►BAUD RATE    :  12 24 48 96
PRINT MODE    :  COL BW 3D
```

Shift the desired baud rate to green
by pressing the ∧ or ∨ button.

```
>BAUD RATE
-*-12 · 24 · 48 · 96
```

Move the blinking cursor to the desired baud
rate.

5 Press the MENU button.
The regular screen appears.

Precautions

Safety

- Operate the printer on 200 to 240V AC, 50/60 Hz power supply only.
- Be careful not to damage the power cable by placing or dropping heavy objects on it; it is dangerous to use the unit with a damaged power cable.
- If you do not intend to use the unit for along time, disconnect the power cable.
- Unplug the power cable by grasping the plug, not the cable itself.
- Do not disassemble the unit.
- Do not remove the cover. There is a danger of electric shock from the internal parts.
- Be careful not to spill water or other liquids on the unit, or to allow combustible or metallic material to enter the cabinet. If used with foreign matter in the cabinet, the unit is liable to fail, or present a risk of fire or electric shock.
- Ventilation holes are provided to prevent the unit from overheating. Be careful not to obstruct them with other units or by covering the unit with a cloth etc.
- If the unit malfunctions or if a foreign body falls into the cabinet, disconnect the power immediately and consult your Sony service facility or your Sony dealer.

Installation

- Avoid placing the unit in a location subject to:
  — mechanical vibration
  — high humidity
  — excessive dust
  — direct or excessive sunlight
  — extremely high or low temperatures
- Do not use either electronic equipment near the unit. The unit will not work properly in strong electromagnetic fields.

Precautions (continued)

On condensation

- If the printer is subjected to wide and sudden changes in temperature, such as when it is moved from a cold room to a warm room or when it is left in a room with a heater that tends to produce large amounts of moisture, condensation may form inside the printer. In such cases the printer will probably not work properly, and may even develop a fault if you persist in using it. If moisture condensation forms, turn off the power and leave the printer to stand for at least one hour.
- If the printing pack is subjected to wide and sudden changes in temperature, condensation may form on the ink ribbon or paper inside. This will cause the printer to malfunction. Also if the printing pack is used in this state, spots are likely to appear on the printout. Therefore, avoid the printing pack in locations subject to wide and sudden changes of temperature.
- To store a half-used printing pack, replace it in its original packing and reseal the package. If possible, keep the sealed printing pack in a cool, dark location. To subsequently use the printing pack, place it, in its sealed package, in a warm room for several hours. Doing so prevents condensation from forming when the printing pack is removed from its package.

Location

To prevent internal heat built-up, leave enough room around the printer for air to circulate through the vents on the left.

Rear

Left-side panel
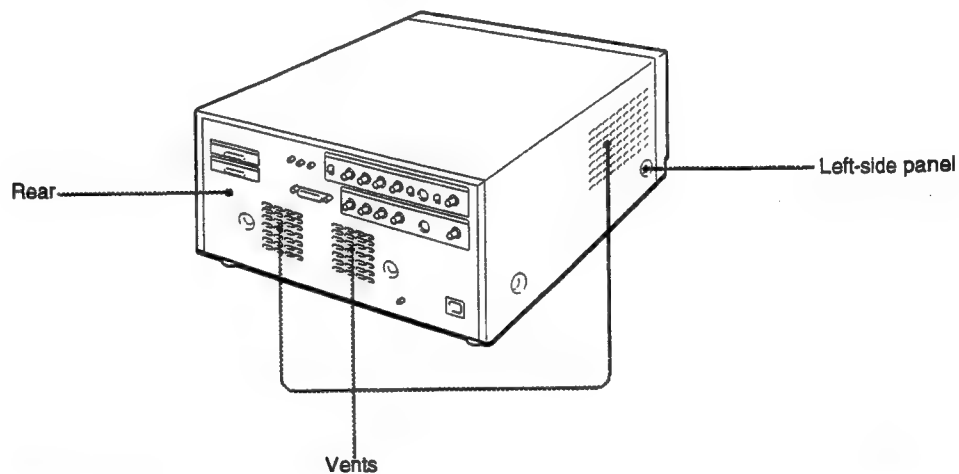
Vents

Cleaning

Clean the cabinet, panel and controls with a soft dry cloth, or a soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which may damage the finish.

Ink Ribbon and Print Paper

You need print paper and ink ribbon cassette for printing. ("Ink ribbon cassette" stands for the supplied ink ribbon holder loaded with ink ribbon.) Use the ink ribbon and print paper contained in the same package. If the printer detects an incompatible combination, an error message appears in the printer window display and you cannot make printouts.

UPC-7010 Color Printing Pack
Contains 100 sheets of print paper and 1 roll of color ink ribbon
UPC-7020 B&W Printing Pack
Contains 100 sheets of print paper and 1 roll of monochrome ink ribbon
UPC-7030 OHP Printing Pack
Contains 100 OHP (overhead projector) sheets and 1 roll of color ink ribbon

Notes
- Use only ink ribbon and print paper for this printer. If you use a different type, the printer may not print properly or malfunction.
- Use the ink ribbon holder suitable for the type of ink ribbon.
- Ink ribbon and print paper are not re-usable. After you finish with them, replace them with new ones.

Specifications

Power requirements
200 to 240 V AC, 50/60 Hz

Power consumption
2.4 A max.

Operating temperature
5°C to 35°C (41°F to 95°F)

Operating humidity
20% to 70% (no condensation allowed)

Storage and transport temperature
-20°C to 60°C (-4°F to 140°F)

Storage and transport humidity
20% to 90% (no condensation allowed)

Dimensions
About 424 × 177 × 490 mm (w/h/d)
(16³/₄ × 7 × 19 ³/₈ inches)

Mass
About 19.2 kg (42 lb 5 oz)

Printing system
Sublimation heat transfer printing

Thermal head
6.4 dot/mm (1280 dots)

Total gradation
256 levels each for yellow, magenta, and cyan

Maximum printing size (Full-size)

For a 625/50 input signal
1164 × 1640 dots /184 × 241mm (v/h)
(7 ¹/₄ × 9 ¹/₂ inches)

For a hi-scan input signal
1240 × 1280 dots /190 × 246 mm (v/h)
(7 ¹/₂ × 9 ³/₄ inches)
(The size may be smaller depending on the type of signal.)

Frame memory
Six frame memories

Printing time
Approximately 125 seconds (normal size color printing of Macintosh II input signals)
Approximately 60 seconds (monochrome printing)

Input connectors

For a 625/50 input signal
VIDEO (PAL composite video signal): BNC connector × 1
0.5 to 2 Vp-p, 75 ohms (75-ohm termination switch set to ON), sync negative

RGB SYNC (analog RGB signal): BNC connector × 4
RGB: 0.7 Vp-p
SYNC: 0.3 to 4 Vp-p
75 ohms (75-ohm termination switch set to ON), sync negative

S VIDEO (Separate luminance (Y) and chrominance (C) signals): 4-pin mini-DIN × 1
Y: 0.5 to 2 Vp-p
C: 0.3 Vp-p color burst
75 ohms (75-ohm termination switch set to ON)

For a high-scan input signal
HI-SCAN INPUT (analog RGB signal): DN 50 × 1
RGB: 0.7 Vp-p
SYNC: 1 to 5 Vp-p
75 ohms terminated

For AC power input
AC IN × 1

Output connectors

For a 625/50 signal
VIDEO (PAL composite video signal): BNC connector × 1
1 Vp-p, 75 ohms (75-ohm termination switch set to ON), sync negative

RGB SYNC (analog RGB signal): BNC connector × 4
RGB: 0.7 Vp-p
SYNC: 1 Vp-p
75 ohms (75-ohm termination switch set to ON)

S VIDEO : 4-pin mini-DIN × 1
Y: 1 Vp-p
C: 0.3 Vp-p color burst
75 ohms (75-ohm termination switch set to ON)

For a high-scan signal
HI-SCAN OUTPUT (analog RGB signal): DN 50 × 1
RGB: 0.7 Vp-p
SYNC: through (sync), feed through

Control connectors
REMOTE 1 (for the supplied remote control unit only): special mini jack × 1
REMOTE 2 (automatic printing connector, for the remote control unit (not supplied)): Stereo mini jack × 1
RS-232C : D-SUB 25-pin connector × 1

Ink ribbon cassette and paper sets
 Color printing pack: UPC-7010
 B & W printing pack: UPC-7020
 OHP printing pack: UPC-7030
Supplied accessories
 Ink ribbon holder (3)
 Paper tray (1)
 Paper cover (1)

Remote control unit RM-5100(1)
Connecting cable for the remote
 control unit (1)
R6 (size AA) dry batteries (2)
AC power cord (1)
Instructions for use(1)

Using the automatic printing capabilities (REMOTE2)

If you send the remote control pulse signals illustrated below through the REMOTE2 connector, the printer is remotely controlled according to the remote control setting. (see page 83)

Turn on the power of the printer and select the input signal. Set the monitor display to the input signal. Send a remote control pulse signal at timing shown below:

**Regulations of remote control pulse (MIN)**
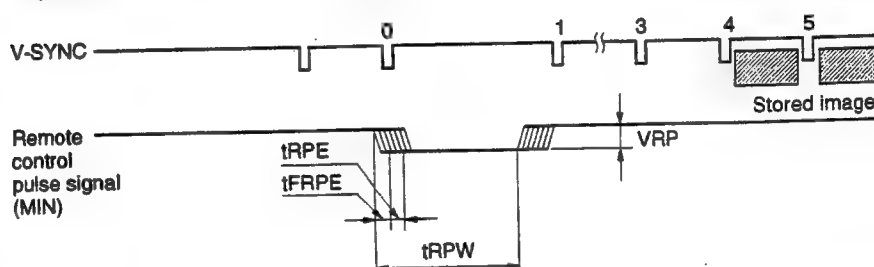
Notation	Parameter	MIN	MAX	Unit	Remarks
tRPE	Time within which a remote control pulse should be cleared to zero.	0	5	msec	—
tFRPE	Time within which a remote control pulse should be cleared to zero.	0	5	msec	—
tRPW	Length of a remote control pulse.	15	—	msec	—
VRP	Amplitude of a remote control pulse.	—	5	V	TTL level

The relation between MIN and BUSY
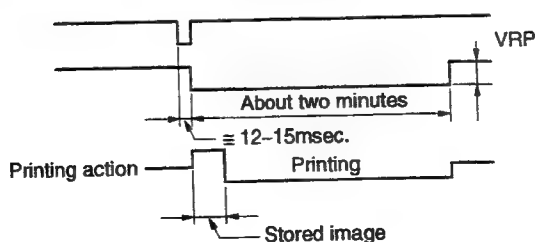
REMOTE2 connector
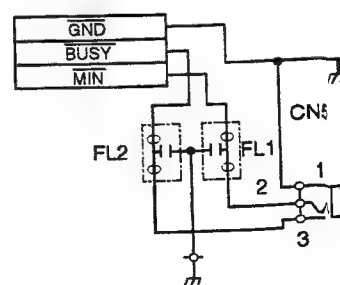
Design and specifications are subject to change without notice.

The following troubleshooting checks will help you correct the most common problems encountered with your unit. Before proceeding with these trouble checks, first check that the power cord is firmly connected. Should the problem persist, unplug the unit and contact your Sony dealer or local authorized Sony service facility.

Symptom	Possible causes and remedies
Nothing appears on the monitor.	The POWER switch of the printer is not set to ON. → Set the POWER switch of the printer to ON. The POWER switch of the monitor is not set to ON. → Set the POWER switch of the monitor to ON. Connections may not be correct. → Make connections correctly. (see page 37)
Any message does not appear on the regular screen.	If an incorrect sync signal is input, nothing may appear on the monitor. → In this case, check the monitor first by pressing the SOURCE/MEMORY button to display the image stored in memory. If an image appears, the monitor is working correctly. Change the INPUT SEL settings on the menu screen. (see page 12) Or, set the connected video equipment to playback mode, if it is in another mode such as stop mode.
Any message and image do not appear on the regular screen.	If an image stored in memory appears when the SOURCE/MEMORY button is pressed, the MONITOR on the SET UP sub menu is set to THRU. → Change the MONITOR setting to E TO E. (see page 75)
The printer does not print.	An error message appears on the display. → Perform the remedies according to the "Error Messages" on page 94.
A black line appears on the printout.	A portion corresponding to there being no signal is printed in black. → Shift the printout area. Store a new image and print it. (see page 68)
The printer makes a printout with black frame.	A portion corresponding to there being no signal is printed in black. → Change the printout size to make it narrow. Store a new image and print it. (see page 64)
The printed image is partially cut off.	Only a part of video signal has been stored. → Change the printout size to make it wide or adjust the aspect ratio with the ASPECT ADJ of the SET UP sub menu. (see pages 64, 71) Store a new image and print it.
The printout is blurred.	The quickly moving image has been stored or when a hi-scan signal is input the V JITTER setting is not correct. → Set the MOTION CORRECT of the PIX QUALITY sub menu to ON or adjust the V JITTER value to eliminate the bur of the image on the monitor, and store it to one of the SAVE numbers. (see pages 59, 62)

Symptom	Possible causes and remedies
The screen image is partially cut off during printing.	Depending on the type of input signal, the image is partially cut off during printing. When printing is completed, the whole image is displayed again. → To check the whole image during printing, set MONITOR to THRU. (see page 75)
The picture on the monitor is not clear.	Some types of hi-scan signals are degraded when being processed in the printer's circuits. (When the MONITOR is set to E TO E and the DOT FREQ is 31 MHz or higher.) → Switch the MONITOR setting of the SET UP sub menu to THRU so that the input signals are directly output to the monitor without being processed in the printer's circuits. (see page 75)
Horizontal line noise appears on the stored image.	When you set a value largely different from the actual signal value for H SIZE, H SHIFT, H START of SET UP sub menu or SAVED SETTINGS of HI-SCAN SEL sub menu, trouble may occur on the stored image. → Readjust the value for each item. (64, 68, 49 pages)

Error Messages

If a problem occurs, the ALARM lamp lights in orange when an error message stating the problem appears on the monitor and in the printer window display. This section lists these messages in alphabetical order, together with their possible causes and remedies. Note the message and act accordingly.

Error messages	Possible causes and remedies
END OF RIBBON	The ink ribbon has been completely used. → Replace with the new ink ribbon. (Ink ribbons cannot be reused.) (see page 8)
ADJUSTING HEAD TEMP	The printer is adjusting the temperature of the thermal head. → Leave the printer until the message disappears. When the adjusting the temperature of the thermal head is completed, the printer can be operated.
INSERT COVER*	The paper cover is not securely installed. → Install the paper cover correctly. (see page 36)
INSERT RIBBON*	The ink ribbon cassette is not fitted properly. → Ensure that the ink ribbon is loaded properly in the ink ribbon holder, and the ink ribbon cassette in the printer. (see page 8)
INSERT TRAY*	The paper tray is not securely installed. → Install the paper tray correctly. (see page 11)
NO INPUT	The printer is not receiving an input signal. → Set the INPUT SELECT settings correctly. (see page 12) → Start the video source. → Check that the connections between the equipment of signal source and the printer is secure. (see page 37)
NO PAPER	The print paper has run out. → Load the print paper into the paper tray. (see page 11)
PLEASE WAIT	When you press the STOP button or turn off the power while printing, or the printer detects an invalid combination of the print paper and ink ribbon and automatically stops printing, this message appears. → Wait for the printer to eject the paper. (see page 18)
REMOVE PAPER OK → PUSH [EXEC]	The print paper has jammed. → Remove jammed paper from the printer and press the EXEC button. (see page 95)
RIBBON & PAPER MISMATCH	The ink ribbon and print paper are not compatible. → Use a valid combination of print paper and ink ribbon. (see page 89)
STOP STOP STOP	This message appears when the printer stops storing images to memory because images have already been stored to all memory pages, under the automatic printing M & S mode. → Press the STOP button. (see page 84)

* These messages are displayed together. When all of the paper tray, paper cover, and ink ribbon cassette are not properly loaded, for example, the message "INSERT RIBBON TRAY COVER" appears on the screen.

If the message remains displayed after you perform the remedies
Turn off the power once and then turn it on. The message will be disappear and you can operate the printer.

Serviceman Call Messages

| Error messages	Meaning
MOTOR TROUBLE SENSOR TROUBLE	The printer cannot be operated any further. Turn off the power immediately and contact your Sony service facility or your Sony dealer.

If the Paper Jams

If the paper jams, printing stops and the error message stating "REMOVE PAPER OK → PUSH [EXEC]" appears on video monitor and the printer window display. Follow the steps below to remove the jammed paper.

1 Remove the paper cover.
If any printouts have been ejected on the paper cover, remove them first before removing the paper cover.
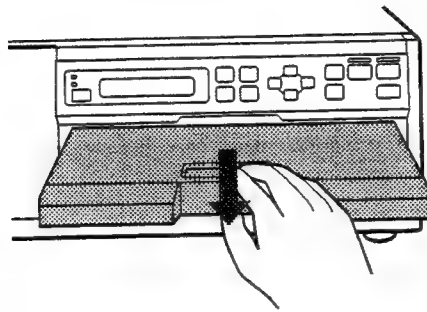
2 Check whether any paper is jammed inside the printer. If you find a jammed sheet, slowly pull it out straightly to the right.
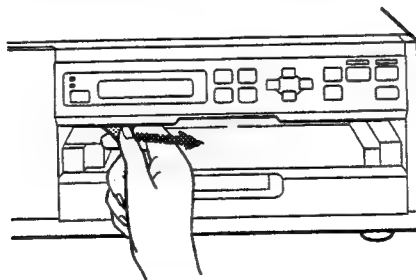
Notes
- Do not pull a jammed sheet down, up, backwards, or forwards; the sheet may tangle. Pull it directly to the right. Discard the removed paper.
- After you removing the jammed paper, pull the top paper to the right, if necessary.
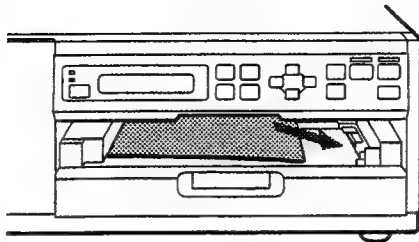
3 Open the ribbon door and remove the ink ribbon cassette. If you find jammed sheet, remove it slowly.
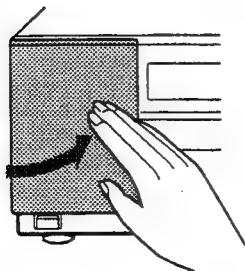
Remove slowly
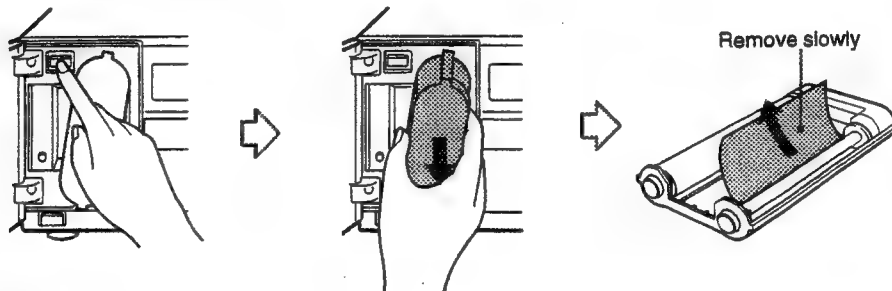
Note
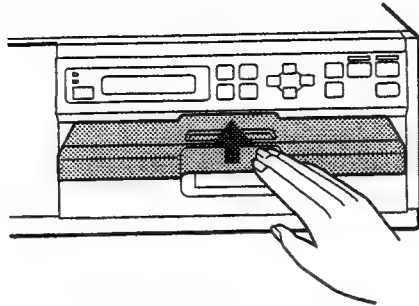If the ink ribbon cassette cannot be removed, turn off the power and contact your Sony service facility.

4 Remove any slack in the ink ribbon, re-insert the ink ribbon cassette into the printer.

Remove any slack

Sony mark faces forward
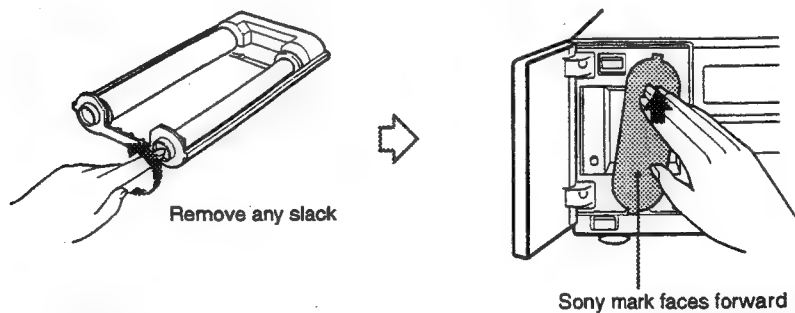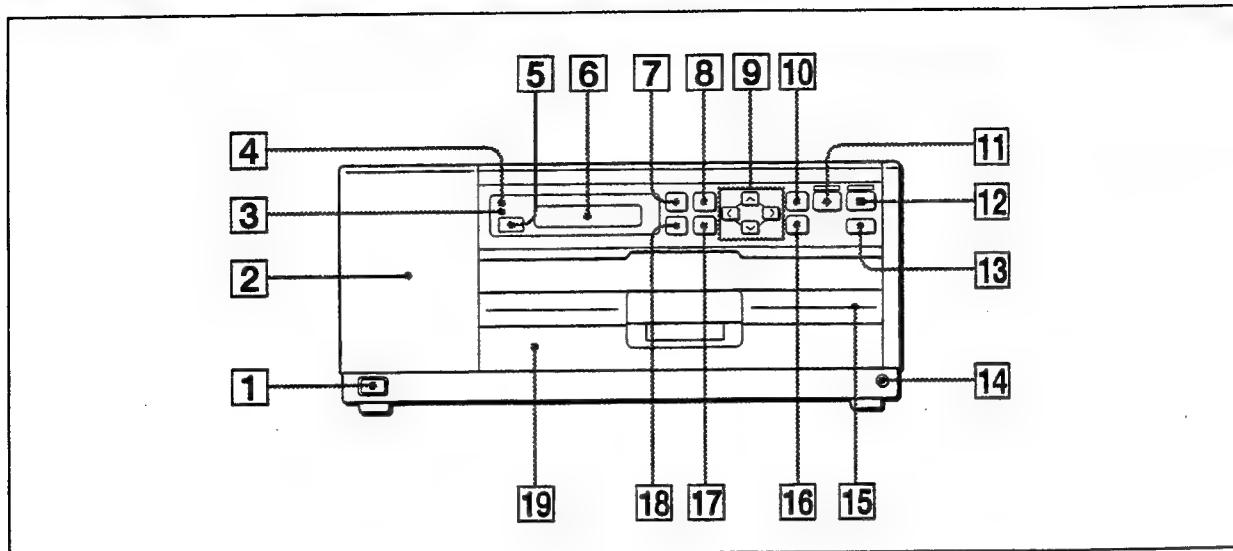
5 Close the ribbon door.

6 Re-insert the paper cover into the printer.

7 Press the EXEC button.
The error message disappears and the printer display returns to the standby status.

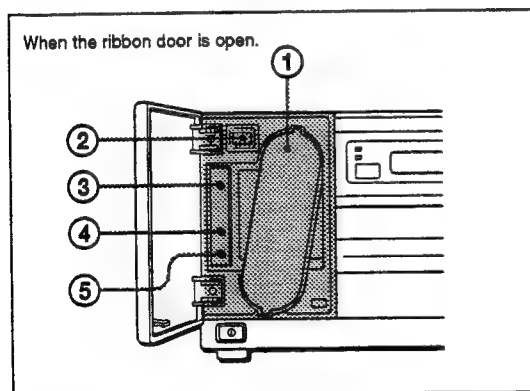For details, refer to the pages indicated in parentheses.

Front

1 ⏻ POWER switch
Press to turn the printer on or off.

2 Ribbon door (8)
Press the PUSH indicator to open the ribbon door to load an ink ribbon cassette.

When the ribbon door is open.

① Ink ribbon cassette (9)
Insert an ink ribbon into the supplied ink ribbon holder.

② EJECT button (9)
Push to eject the ink ribbon cassette.

③ GAIN control (58)
Turn to adjust the input signal to the optimum level for printing.

④ COLOR control (58)
Turn to adjust the color quality of the video or S-video input signal.

⑤ LCD control
Turn to adjust the contrast of the printer window display. To increase the contrast, turn the control clockwise. To reduce the contrast weaker, turn the control counter-clockwise.

3 ALARM lamp (94)
Lights in orange when the ink ribbon or print paper is exhausted, the paper jams, or another problem occurs.

4 HI-SCAN lamp
Lights in green when you select HI (hi-scan signal) input mode.

5 Remote sensor (40)
Aim the head of the remote control unit toward this sensor.

6 **Printer window display**
Displays the messages that also appear along bottom edge of the monitor screen. Also displays the menu screen line to which the cursor is positioned. If an error occurs, corresponding error message is displayed.

7 **PRINT QTY (quantity) button (20)**
Press this button to display or quit the print quantity setting menu in the monitor screen and printer window display. Use the ∧, ∨, < and > buttons to set the number of copies.

8 **MENU button**
Press this button to display or quit the main menu or sub menus on the screen and printer window display.

9 **Cursor keys**
Press to position the cursor. Select a desired item from the menu by pressing the ∧ or ∨ button and set the value by pressing the < or > button.
Also, these keys are used to enter characters for a caption.

10 **SOURCE/MEMORY button (17)**
Press to select which signal is to be output to the monitor.
The memory image and source image are changed whenever you press this button.

11 **MEMORY IN button (17)**
Press to store an image to memory.

12 **PRINT button (17)**
Press to make prints.

13 **STOP button (18)**
Press to stop printing midway.

14 **REMOTE 1 connector (38)**
Used to connect the remote control unit (supplied) when being used as a wired type.

15 **Paper cover (36)**
The printout is ejected to this tray

16 **MEMORY PAGE button (24)**
Press to select the memory page.

17 **EXEC button**
Press this button whenever PUSH [EXEC] message appears in the printer window display and on the monitor screen. Also, this button is used to enter characters for a caption.

18 **MULTI PICTURE button (23)**
Press this button to select the desired printout type.

19 **Paper tray (11)**
Load paper into this tray.

Rear
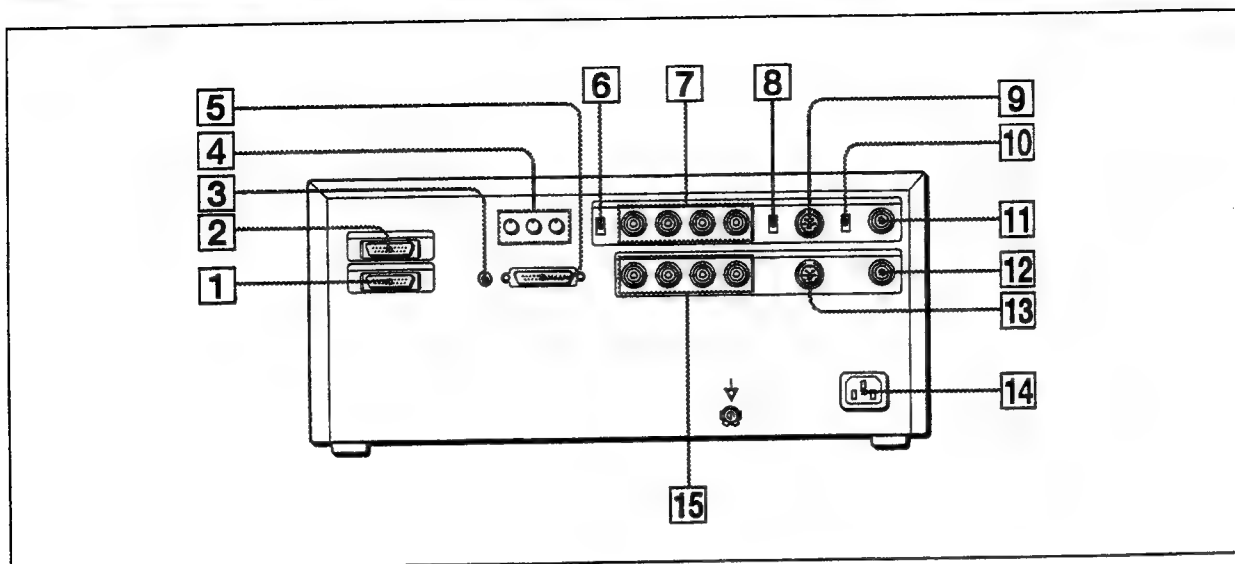
1 HIGH SCAN OUTPUT connector (39)
Used to connect to the monitor input by using an interface cable (not supplied).

2 HIGH SCAN INPUT connector (39)
Used to connect to the computer RGB output or medical equipment output connector by using an interface cable (not supplied).

3 REMOTE 2 connector (38)
Used to connect the FS-20 foot switch (not supplied) or input remote control pulse signals for automatic printing.

4 MONITOR RGB controls (79)
Turn this control to adjust the output signals to monitor to match the monitor color with the printout color.

5 RS-232C connector (38)
Used to connect the computer to control the printer. For details, consult with your Sony dealer of service facilities.

6 75Ω ON/OFF termination switch (for RGB input) (38)
Normally, set this switch to ON. Set it to OFF if the input signal should drop when you connect additional equipment to the video equipment.

7 R/G/B/SYNC INPUT connectors (38)
Used to connect video equipment with an RGB output.

8 75Ω ON/OFF termination switch (for Y/C separated input) (38)
Normally, set this switch to ON. Set it to OFF if the input signal should drop when you connect additional equipment to the video equipment.

9 S-VIDEO INPUT connector (38)
Used to connect video equipment with a Y/C separated output.

10 75Ω ON/OFF termination switch (for PAL composite video signal) (38)
Normally, set this switch to ON. Set it to OFF if the input signal should drop when you connect additional equipment to the video equipment.

11 VIDEO INPUT connector (38)
Used to connect video equipment with a BNC connector.

12 **VIDEO OUTPUT connector (38)**
Used to connect a monitor with a BNC
connector.

13 **S-VIDEO OUTPUT connector (38)**
Used to connect to a video monitor with a Y/C
separated connector.
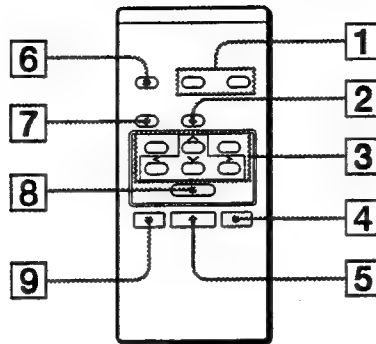
14 **~AC IN connector (38)**
Used to connect to a wall outlet with the
supplied power cord.

15 **R/G/B/SYNC OUTPUT connectors (38)**
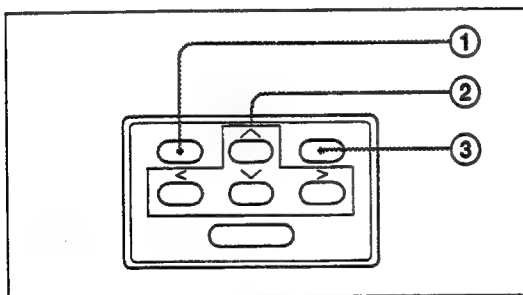Used to connect to a monitor with R/G/B/
SYNC connectors.

Remote Control Unit

1 PRINT QTY (quantity) +/– button (21)
Used to set the number of copies directly from the regular screen. Press + to increase the number and - to decrease the number.

2 MULTI PICTURE button (23)
Press this button to select the desired printout type.

3 MENU control keys

① **MENU button**
Press this button to display or quit the main menu or sub menus on the screen and printer window display.
② **Cursor keys**
Press to position the cursor. Select a desired item, set the value or enter characters for a caption by pressing the ∧, ∨, <, > button.

③ **EXEC button**
Press this button whenever PUSH [EXEC] massage appears in the printer window display and on the monitor screen. Also, this button is used to enter characters for a caption.

4 PRINT button (17)
Press to make prints.

5 MEMORY IN button (17)
Press to store an image to memory.

6 MEMORY PAGE button (24)
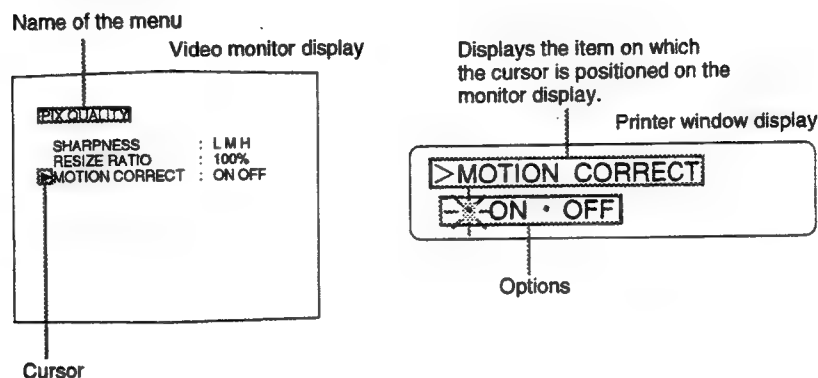Press to select the memory page.

7 COLOR ADJUST button (54)
Press this button to directly access the COLOR ADJ sub menu from the regular screen.

8 STOP button (18)
Press to stop printing midway.

9 SOURCE/MEMORY button (17)
Press to select which signal is to be output to the monitor.
The memory image and source image are changed whenever you press this button.

You can operate the printer using either the printer window display or the monitor screen display. Although the printer window display has a narrower display range and shows a limited number of characters, the displayed contents and operations are the same as the monitor display. Use whichever method you prefer.

A brief description of the printer window display is given below, in comparison with the monitor screen.

Name of the menu

Video monitor display

Displays the item on which the cursor is positioned on the monitor display.

Printer window display

PIX QUALITY

SHARPNESS	: L M H
RESIZE RATIO	: 100%
MOTION CORRECT	: ON OFF

▷MOTION CORRECT
ON · OFF

Options

Cursor

There are two types of display: the regular screen display and menu screen display. The two types of display are described using the monitor display.

Regular screen display

When you first turn on the printer, the regular screen message appears.
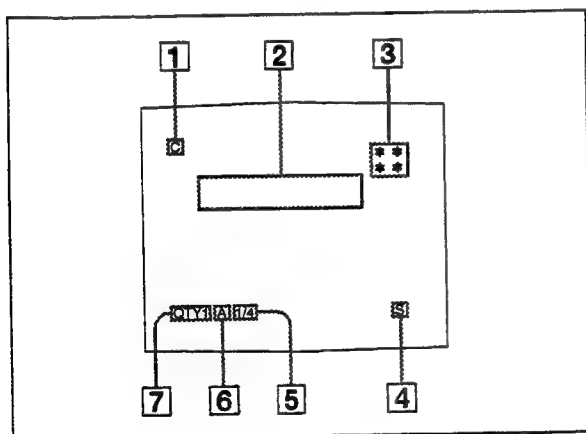
1 C (Caption) display
C is displayed when the printer is set to print a caption consisting of the date and/or comments.

Note
When you first turn on the printer, C does not appear. After you enter a caption, C appears.

2 Error message display area
Error messages are displayed.

3 Reduced-images memory status display
When the printer is set to store multiple reduced images in memory, a corresponding number of * appear to indicate the memory status.

4 S or M (image type) display
Indicates the type of image being shown on the monitor screen.
S (Source): An image from input signal source is displayed on the screen.
M (Memory): An image stored in memory is displayed on the screen.

5 1/1 (printout type) display
Indicates the selected printout type and the number corresponding to the stored image being displayed on the monitor.
For example, when the first image of the four reduced images is being displayed, 1/4 appears. 1/1 indicates the full-screen printout.
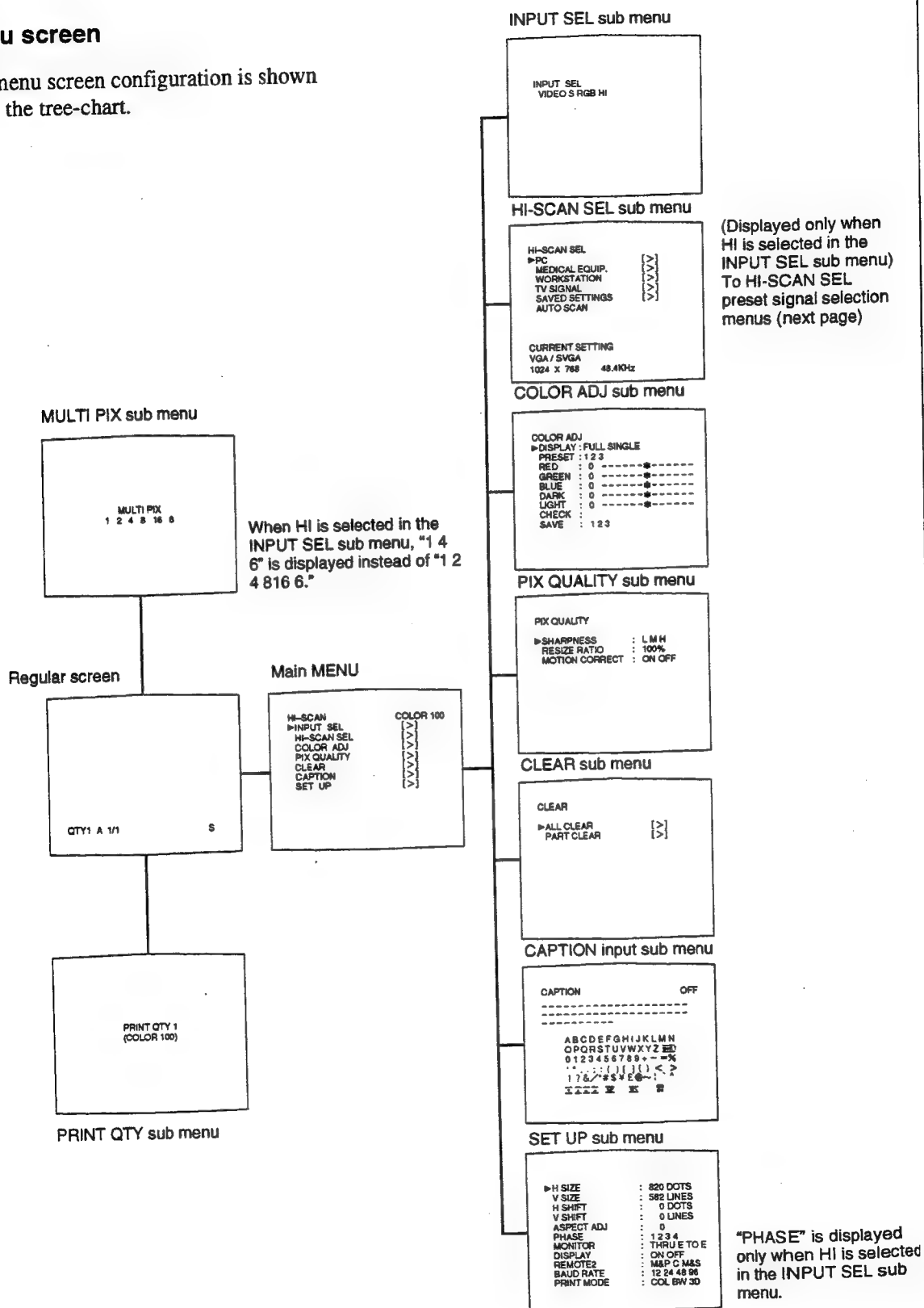
6 **A, B, C, or D (memory page) display**
Indicates the memory page being used.

7 **QTY (print quantity) display**
Indicates the number of copies to be printed.
This item blinks while the printer is busy.
Also, the color changes to indicate the
progress when making printouts:
Color printing: printing starts—yellow—
magenta—cyan—printing end
Black and white printing: blinking in yellow.

Menu screen

The menu screen configuration is shown using the tree-chart.

INPUT SEL sub menu

INPUT SEL
VIDEO S RGB HI

HI-SCAN SEL sub menu

HI-SCAN SEL
►PC
MEDICAL EQUIP.   [>]
WORKSTATION   [>]
TV SIGNAL   [>]
SAVED SETTINGS   [>]
AUTO SCAN

CURRENT SETTING
VGA / SVGA
1024 X 768   48.4KHz

(Displayed only when HI is selected in the INPUT SEL sub menu) To HI-SCAN SEL preset signal selection menus (next page)

COLOR ADJ sub menu

COLOR ADJ
►DISPLAY : FULL SINGLE
 PRESET : 1 2 3
 RED   : 0 ------*-------
 GREEN : 0 ------*-------
 BLUE   : 0 ------*-------
 DARK   : 0 ------*-------
 LIGHT : 0 ------*-------
 CHECK :
 SAVE   : 1 2 3

MULTI PIX sub menu

MULTI PIX
1 2 4 8 16 8

When HI is selected in the INPUT SEL sub menu, "1 4 6" is displayed instead of "1 2 4 816 6."

PIX QUALITY sub menu

PIX QUALITY
►SHARPNESS   : L M H
 RESIZE RATIO   : 100%
 MOTION CORRECT   : ON OFF

Regular screen

QTY1 A 1/1   S

Main MENU

HI-SCAN   COLOR 100
►INPUT SEL   [>]
 HI-SCAN SEL   [>]
 COLOR ADJ   [>]
 PIX QUALITY   [>]
 CLEAR   [>]
 CAPTION   [>]
 SET UP   [>]

CLEAR sub menu

CLEAR
►ALL CLEAR   [>]
 PART CLEAR   [>]

CAPTION input sub menu

CAPTION   OFF

ABCDEFGHIJKLMN
OPQRSTUVWXYZ
0123456789+-=%
. . : ( ) [ ] { } < >
! ? & / * # $ ¥ £ @ ~ ;

SET UP sub menu

►H SIZE   : 820 DOTS
 V SIZE   : 582 LINES
 H SHIFT   : 0 DOTS
 V SHIFT   : 0 LINES
 ASPECT ADJ : 0
 PHASE   : 1 2 3 4
 MONITOR   : THRU E TO E
 DISPLAY   : ON OFF
 REMOTE2   : M&P C M&S
 BAUD RATE   : 12 24 48 96
 PRINT MODE : COL BW 3D

"PHASE" is displayed only when HI is selected in the INPUT SEL sub menu.

PRINT QTY 1
(COLOR 100)

PRINT QTY sub menu

HI-SCAN SEL preset signal selection menus

PC (personal computer) sub menu

```
PC
▶VGA / SVGA        [>]
MAC                [>]
PC-98              [>]
```

VGA/SVGA (IBM PC/AT or equivalent) preset signal list

```
VGA/SVGA
▶640 X 350         31.5KHz
 640 X 400         31.5KHz
 640 X 480         31.5KHz
 800 X 600         35.2KHz ●
 800 X 600         37.9KHz ●
 800 X 600         48.1KHz ●
 1024 X 768        48.4KHz ●
 1024 X 768        56.5KHz I¹⁾●
 1024 X 768        35.5KHz I¹⁾●
                   PUSH [EXEC]
```

MEDICAL EQUIP. (equipment) sub menu

```
MEDICAL EQUIP.
 MEDICAL 1         [>]
 MEDICAL 2         [>]
 MEDICAL 3         [>]
```

MEDICAL 1 preset signal list

```
MEDICAL 1
▶814 X 814         21.9KHz I¹⁾
 674 X 674         22.1KHz I
 770 X 942         30.7KHz I
 786 X 1024        31.2KHz I
 770 X 480         31.5KHz
 770 X 960         31.5KHz I
 700 X 1024        33.6KHz I
 1024 X 1024       37.5KHz I●
 1024 X 1024       50.0KHz I●
                   PUSH [EXEC]
```

MAC (Apple Macintosh) preset signal list

```
MAC
▶640 X 480         35.0KHz
 1024 X 768        48.2KHz ●
 832 X 624         49.1KHz ●
 1024 X 768        60.2KHz ●
 1152 X 870        68.7KHz ●
                   PUSH [EXEC]
```

WORKSTATION sub menu

```
WORKSTATION
 SUN               [>]
 HP                [>]
 SONY              [>]
```

SUN (SUN workstation) preset signal list

```
SUN
▶1152 X 900        61.8KHz ●
 1024 X 1024       66.3KHz ●
 1152 X 900        71.7KHz ●
 1280 X 1024       71.7KHz ●
                   PUSH [EXEC]
```

MEDICAL 2 preset signal list

```
MEDICAL 2
▶635 X 829         33.3KHz
 704 X 512         33.4KHz
 704 X 512         33.5KHz
 656 X 540         34.5KHz (A)²⁾
 656 X 540         34.5KHz (B)³⁾
                   PUSH [EXEC]
```

PC-98 (NEC PC-9800) preset signal list

```
PC-98
▶640 X 400         24.8KHz
 640 X 400         31.5KHz
 1120 X 750        50.0KHz ●¹⁾
 1120 X 750        32.8KHz I¹⁾●
                   PUSH [EXEC]
```

TV SIGNAL sub menu

```
TV SIGNAL
 HDTV              [>]
 NTSC INTERLACE    [>]
 PAL INTERLACE     [>]
 NTSC NON INTERLACE [>]
 PAL NON INTERLACE [>]
                   PUSH [EXEC]
```

HP (Hewlett Packard workstation) preset signal list

```
HP
▶1024 X 768        56.5KHz ●
 1024 X 768        60.2KHz ●
 1024 X 768        62.9KHz ●
 1280 X 1024       63.4KHz ●
 1280 X 1024       78.1KHz ●
                   PUSH [EXEC]
```

MEDICAL 3 preset signal list

```
MEDICAL 3
▶516 X 256         16.8KHz (A)²⁾
 516 X 256         16.8KHz (B)³⁾
 640 X 512         26.0KHz
 1024 X 768        57.9KHz ●
 1280 X 1024       69.0KHz ●
                   PUSH [EXEC]
```

SAVED SETTINGS sub menu

```
▶LOAD              : 1 2 3 4
 DOT FREQ          : 92.94MHz
 H FREQ            : 61.80KHz
 H SIZE            : 1152DOTS
 V SIZE            : 900 LINES
 H START           : 300 DOTS
 V START           : 31 LINES
 V JITTER          : 0
 ASPECT            : 1 2 3 4
 SAVE              : 1 2 3 4
                   PUSH [EXEC]
```

SONY (Sony NEWS workstation) preset signal list

```
SONY
▶1024 X 768        48.8KHz ●
 1280 X 1024       63.3KHz ●
                   PUSH [EXEC]
```

* The signals with * may be degraded when being processed in the printer's internal circuits. To view the input images without blur, set MONITOR to THRU.

1) I: Interlaced
2) (A): 60Hz
3) (B): 50Hz

Index

AVERTISSEMENT

Afin d'éviter tout risque d'électrocution, ne pas exposer cet appareil à la pluie ou à l'humidité.

Afin d'écarter tout risque d'électrocution, garder le coffret fermé. Ne confier l'entretien de l'appareil qu'à un personnel qualifié.

Instructions de sécurité importantes en vue d'une utilisation dans un environnement médical

1. Tous les équipements raccordés à cet appareil doivent être agréés suivant les normes IEC601-1, IEC950, IEC65 ou les autres normes IEC/ISO applicables à ces équipements.
2. Si cet appareil est utilisé conjointement avec d'autres équipements à proximité d'un patient*, ces équipements doivent être alimentés par un transformateur d'isolement ou raccordés à la mise à la terre du système par une borne de terre de protection sauf s'ils sont agréés suivant la norme IEC601-1.

   * Proximité d'un patient
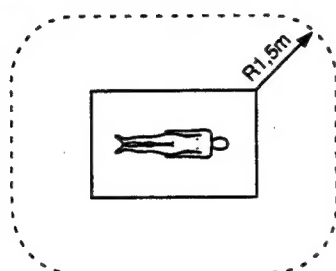
3. Dans le cas d'une connexion à d'autres équipements, le courant de fuite peut augmenter.

Symboles

Ce symbole signale un équipement de type B selon la classification de la norme médicale internationale IEC Publication 601-1 Sécurité médicale d'équipements électriques.

Ce symbole indique la borne équipotentielle qui ramène les différentes parties d'un système à la même tension.